

ELHILO 10/735291 11/08/04 Page 1

=> FILE REG

FILE 'REGISTRY' ENTERED AT 16:59:38 ON 08 NOV 2004  
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STRUCTURE FILE UPDATES: 7 NOV 2004 HIGHEST RN 776240-21-2  
DICTIONARY FILE UPDATES: 7 NOV 2004 HIGHEST RN 776240-21-2

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information enter HELP PROP at an arrow prompt in the file or refer  
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<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> FILE HCPLUS

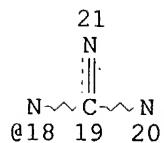
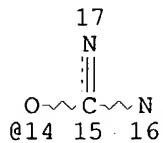
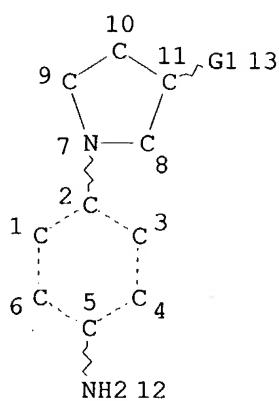
FILE 'HCPLUS' ENTERED AT 16:59:42 ON 08 NOV 2004  
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FILE COVERS 1907 - 8 Nov 2004 VOL 141 ISS 20  
FILE LAST UPDATED: 7 Nov 2004 (20041107/ED)

This file contains CAS Registry Numbers for easy and accurate  
substance identification.

=> D QUE  
L25 STR



A ~ G2 ~ G3  
@22 23 24

H

134 structures from  
the query

@26 N +1

Page 1-A

y @25

Page 1-B

VAR G1=14/18/22/25/26

REP G2=(0-13) A

VAR G3=26/25

NODE ATTRIBUTES:

CHARGE IS E+1 AT 26

DEFAULT MLEVEL IS ATOM

GGCAT IS UNS AT 25

DEFAULT ECLEVEL IS LIMITED

ECOUNT IS M1 N AT 25

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 26

STEREO ATTRIBUTES: NONE

L27 134 SEA FILE=REGISTRY SSS FUL L25

L29 26 SEA FILE=HCAPLUS ABB=ON L27

L31 19 SEA FILE=HCAPLUS ABB=ON L29(L) (HAIR OR KERAT?)

=> D L31 BIB ABS IND HITSTR 1-19

L31 ANSWER 1 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2004:796305 HCAPLUS

DN 141:295851

TI Preparation of p-phenylenediamines with a disubstituted pyrrolidine group,  
bearing a cationic radical and their use for dyeing keratinic fibers

IN Ramos, Laure; Sabelle, Stephane

PA L'oreal, Fr.

SO Eur. Pat. Appl., 32 pp.

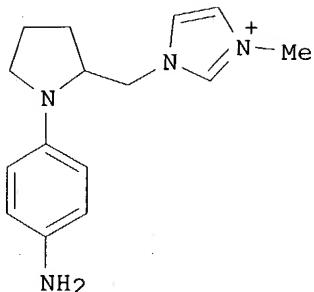
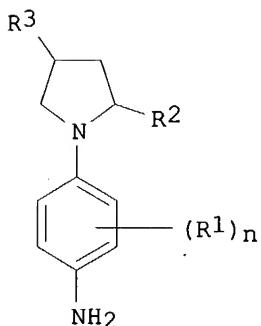
CODEN: EPXXDW

DT Patent

19 CA references with  
utility

LA French  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1462453 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR FR 2852953 JP 2004300155	A1 A1 A2	20040929 20041001 20041028	EP 2004-290635 FR 2003-3873 JP 2004-93404	20040309 20030328 20040326
PRAI	FR 2003-3873	A	20030328		
GI					



AB Title compds. I [wherein n = 0-4; when n ≥ 2, R1 can be identical or different; R1 = halo, Z, (un)saturated (un)substituted aliphatic or alicyclic hydrocarbyl, optionally containing one or more O, Si, S, or SO<sub>2</sub>; R1 is not -O-O-, diazo, nitro or nitroso; R2 = Z, CO<sub>2</sub>H and derivs., monoalkyl/dialkyl/carbamoyl, etc.; R3 = Z, H, OH and derivs., NH<sub>2</sub> and derivs., SH, CO<sub>2</sub>H and derivs., monoalkyl/dialkylcarbamoyl, alkylsulfonyl, alkyl, etc.; provided that at least one of R2 and R3 is an onium radical; Z = onium radical selected from trialkylammonium, pyridinium, 1H-imidazol-3-ium; 3H-imidazol-1-ium, etc.; and their addition salts] were prepared as oxidation bases for dyeing keratinous fibers, in particular human hair fibers. For example, II•Cl<sup>-</sup>•HCl was prepared, in 3 steps, via substitution of 2-chloromethyl-1-(4-nitrophenyl)pyrrolidine (preparation given) in N-methylimidazole in toluene at reflux for 9 h, and hydrogenation of the nitro derivative over Pd/C. Formulations of II•Cl<sup>-</sup>•HCl in acidic medium gave blue-violet and gray shades.

IC ICM C07D521-00  
ICS C07D401-06; C07D207-09; C07D401-14; C07D207-14; C07D207-12;  
C07D401-04; C07D207-16; A61K007-13

CC 27-10 (Heterocyclic Compounds (One Hetero Atom))  
Section cross-reference(s): 62

ST pyrrolidine aminophenyl prepn hair dye keratin fiber

IT Bromates

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(oxidizing agents; alkali metal; preparation of p-phenylenediamines with a disubstituted pyrrolidine group, bearing a cationic radical and their use for dyeing keratinic fibers)

IT Peroxy acids

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

(oxidizing agents; preparation of p-phenylenediamines with a disubstituted pyrrolidine group, bearing a cationic radical and their use for dyeing keratinic fibers)

IT Hair preparations

Human

(preparation of p-phenylenediamines with a disubstituted pyrrolidine group, bearing a cationic radical and their use for dyeing keratinic fibers)

IT 2835-95-2, 2-Methyl-5-aminophenol 54557-79-8, 3,6-Dimethyl-1H-pyrazolo[5,1-c]-[1,2,4]triazole 66422-95-5, 2-(2,4-Diaminophenoxy)ethanol dihydrochloride 80419-48-3, 3-Amino-2-chloro-6-methylphenol hydrochloride

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

(coupling agent; preparation of p-phenylenediamines with a disubstituted pyrrolidine group, bearing a cationic radical and their use for dyeing keratinic fibers)

IT 129297-51-4P 251108-59-5P 764662-20-6P, 2-Chloromethyl-1-(4-nitrophenyl)pyrrolidine 764662-21-7P, 1-Methyl-3-[1-(4-nitrophenyl)pyrrolidin-2-ylmethyl]-3H-imidazol-1-ium chloride 764662-25-1P 764662-27-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; preparation of p-phenylenediamines with a disubstituted pyrrolidine group, bearing a cationic radical and their use for dyeing keratinic fibers)

IT 764662-19-3P, 3-[1-(4-Aminophenyl)pyrrolidin-2-ylmethyl]-1-methyl-3H-imidazol-1-ium chloride hydrochloride

RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)

(oxidation base for dyeing; preparation of p-phenylenediamines with a disubstituted pyrrolidine group, bearing a cationic radical and their use for dyeing keratinic fibers)

IT 764662-23-9P

RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)

(oxidation base in dyeing; preparation of p-phenylenediamines with a disubstituted pyrrolidine group, bearing a cationic radical and their use for dyeing **keratinic** fibers)

IT 51-35-4, trans-4-Hydroxyproline 350-46-9, 4-Fluoronitrobenzene

616-47-7, N-Methylimidazole 105173-13-5, [1-(4-Nitrophenyl)pyrrolidin-2-yl]methanol

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of p-phenylenediamines with a disubstituted pyrrolidine group, bearing a cationic radical and their use for dyeing keratinic fibers)

IT 764662-23-9P

RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)

(oxidation base in dyeing; preparation of p-phenylenediamines with a disubstituted pyrrolidine group, bearing a cationic radical and their use for dyeing **keratinic** fibers)

RN 764662-23-9 HCPLUS

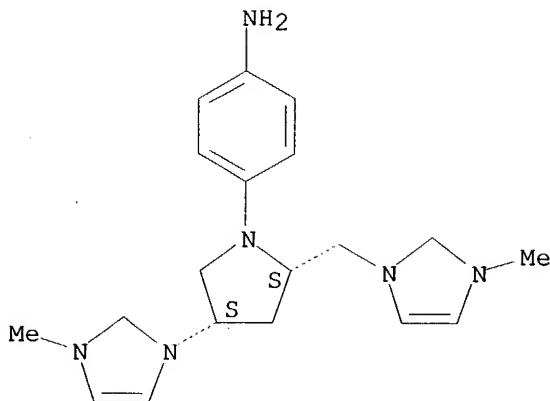
CN INDEX NAME NOT YET ASSIGNED

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CRN 764662-22-8

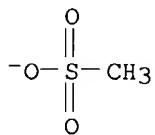
CMF C19 H26 N6

Absolute stereochemistry.



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 16053-58-0  
CMF C H3 O3 SL31 ANSWER 2 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:482172 HCAPLUS

DN 141:42544

TI Hair dyeing compositions comprising a tertiary p-phenylenediamine with a pyrrolidine ring and a vitamin derivative

IN Cotteret, Jean; Lagrange, Alain

PA L'oreal, Fr.

SO Eur. Pat. Appl., 52 pp.

CODEN: EPXXDW

DT Patent

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1428517	A1	20040616	EP 2003-293142	20031212
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK FR 2848431	A1	20040618	FR 2002-15764	20021213
	US 2004205904	A1	20041021	US 2003-735291	20031212
PRAI	FR 2002-15764	A	20021213		
	US 2003-444634P	P	20030204		
OS	MARPAT 141:42544				
AB	Hair dyeing compns. comprise a tertiary p-phenylenediamine with a pyrrolidine ring and a vitamin derivative Thus, a composition contained oleyl alc.				
	6, oleic acid 3, diglyceryl oleyl ether 6, hexaglyceryl oleyl ether 6,				

*applicant*

diethylaminopropyl laurylaminosuccinamate sodium salt 3, ethoxylated oleylamine 7, ethoxylated alkyl ether monoethanolamide 10, ammonium acetate 20, propylene glycol 20, dlinoleic acid 1.5, reducing agents 0.915, sequestrants 1, resorcinol 0.085, [1-(4-aminophenyl)pyrrolidin-3-yl]trimethylammonium chloride 1.0, 2-methyl-5-aminophenol 0.5, niacinamide 0.2, perfume qs, ammonia 10.2, and water qs to 100 g. The above composition was mixed with 6% H<sub>2</sub>O<sub>2</sub> and applied onto hair.

- IC ICM A61K007-13  
CC 62-3 (Essential Oils and Cosmetics)  
ST hair dye phenylenediamine pyrrolidine vitamin  
IT Phenols, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(amino; hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and vitamin derivative)  
IT Surfactants  
(amphoteric; hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and vitamin derivative)  
IT Surfactants  
(anionic; hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and vitamin derivative)  
IT Polyelectrolytes  
Surfactants  
(cationic; hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and vitamin derivative)  
IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(diamines, aromatic; hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and vitamin derivative)  
IT Dyes  
(direct; hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and vitamin derivative)  
IT Hair preparations  
(dyes, oxidative; hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and vitamin derivative)  
IT Hair preparations  
(dyes; hair dyeing compns. comprising phenylenediamine with pyrrolidine  
ring and vitamin derivative)  
IT Fatty acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(essential; hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and vitamin derivative)  
IT Tocopherols  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(esters; hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and vitamin derivative)  
IT Human  
Oxidizing agents  
Surfactants  
Thickening agents  
(hair dyeing compns. comprising phenylenediamine with pyrrolidine ring  
and vitamin derivative)  
IT Bromates  
Ethers, biological studies  
Tocopherols  
Vitamins  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising phenylenediamine with pyrrolidine ring  
and vitamin derivative)  
IT Surfactants

(nonionic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and vitamin derivative)

IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(peroxy; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and vitamin derivative)

IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(phenolic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and vitamin derivative)

IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(salts, peroxy; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and vitamin derivative)

IT Surfactants  
(zwitterionic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and vitamin derivative)

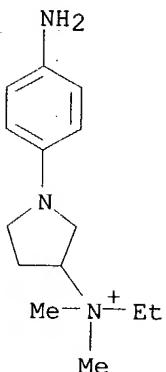
IT 56-81-5, Glycerol, biological studies 57-55-6, Propylene glycol, biological studies 58-85-5, Biotin 58-95-7, Vitamin E acetate 59-02-9,  $\alpha$ -Tocopherol 59-30-3, Folic acid, biological studies 59-43-8, Thiamin, biological studies 59-67-6, Nicotinic acid, biological studies 64-17-5, Ethanol, biological studies 65-23-6, Pyridoxine 79-83-4, Pantothenic acid 81-13-0, Panthenol 83-88-5, Riboflavin, biological studies 87-89-8, Inositol 90-15-3, 1-Naphthol 91-86-1,  $\eta$ -Tocopherol 95-55-6D, o-Aminophenol, derivs. 95-88-5, 4-ChloroResorcinol 98-92-0, Niacinamide 106-50-3D, p-Phenylenediamine, derivs. 108-45-2, 1,3-Diaminobenzene, biological studies 108-45-2D, m-Phenylenediamine, derivs. 108-46-3, Resorcinol, biological studies 108-46-3D, Resorcinol, derivs. 119-13-1,  $\delta$ -Tocopherol 123-30-8D, p-Aminophenol, derivs. 124-43-6 148-03-8,  $\beta$ -Tocopherol 490-23-3,  $\epsilon$ -Tocopherol 493-35-6,  $\zeta$ 2-Tocopherol 533-31-3, Sesamol 541-15-1, Carnitine 591-27-5D, m-Aminophenol, derivs. 608-25-3, 2-MethylResorcinol 1406-18-4, Vitamin E 1721-51-3,  $\zeta$ 1-Tocopherol 2380-86-1, 6-Hydroxyindole 2380-94-1, 4-Hydroxyindole 7469-77-4, 2-Methyl-1-naphthol 7556-37-8 7616-22-0,  $\gamma$ -Tocopherol 7722-84-1, Hydrogen peroxide, biological studies 9035-73-8, Oxidase 12001-76-2, Vitamin B 16867-03-1, 2-Amino-3-hydroxypyridine 25711-72-2, 3-Ureido aniline 26021-57-8, 6-Hydroxybenzomorpholine 26455-21-0 70643-19-5 81329-90-0 81892-72-0 85679-78-3, 3,5-DiAmino-2,6-dimethoxypyridine 113973-04-9, Tocopheryl palmitate 149330-25-6 402941-00-8 **435275-61-9**  
**435275-62-0** **435275-65-3** **435275-66-4**  
**435275-67-5** **435275-68-6** **435275-69-7**  
**435275-70-0** **435275-72-2** **435275-73-3**  
**435275-74-4** **435275-82-4** 607355-12-4  
607355-13-5 607355-16-8 607355-17-9  
607355-18-0 607355-19-1 607355-20-4 607355-21-5  
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701975-24-8 701975-25-9 701975-26-0 **701975-27-1**  
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RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising phenylenediamine with

IT      pyrrolidine ring and vitamin derivative)  
435275-61-9 435275-62-0 435275-65-3  
435275-66-4 435275-67-5 435275-68-6  
435275-69-7 435275-70-0 435275-72-2  
435275-73-3 435275-74-4 435275-82-4  
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RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and vitamin derivative)

RN 435275-61-9 HCPLUS

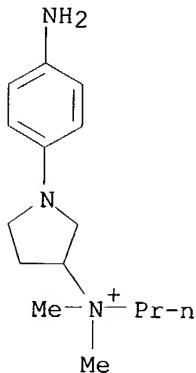
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(CA INDEX NAME)



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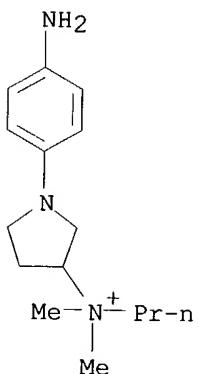
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

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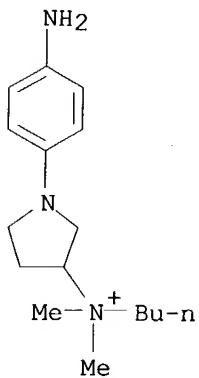
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, bromide  
(9CI) (CA INDEX NAME)



● Br<sup>-</sup>

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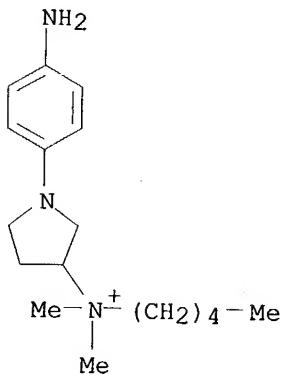
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-butyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

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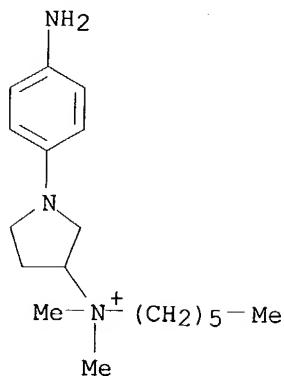
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-pentyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-68-6 HCPLUS

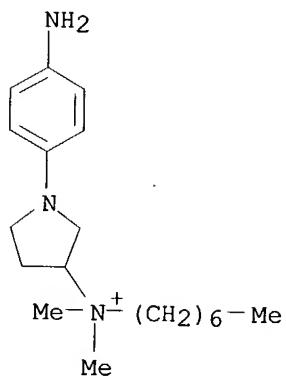
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I-

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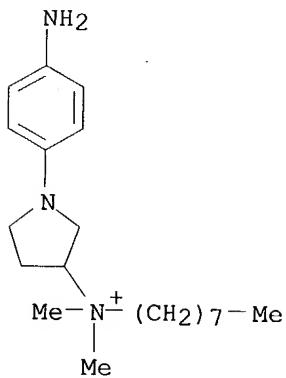
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(9CI) (CA INDEX NAME)



● I-

RN 435275-70-0 HCAPLUS

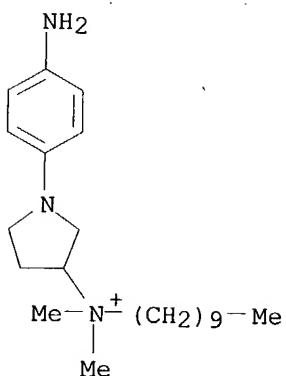
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(CA INDEX NAME)



● I<sup>-</sup>

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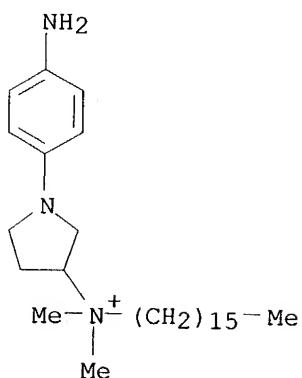
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-decyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

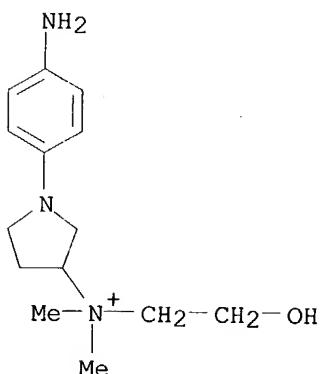
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CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexadecyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



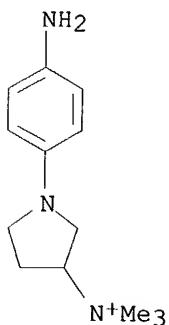
● I<sup>-</sup>

RN 435275-74-4 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-,  
iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

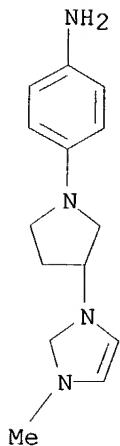
RN 435275-82-4 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N,N-trimethyl-, chloride (9CI)  
(CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-12-4 HCAPLUS

CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-methyl-, chloride  
(9CI) (CA INDEX NAME)

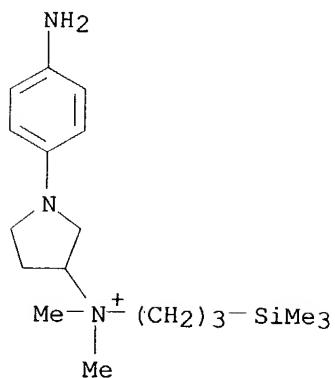


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

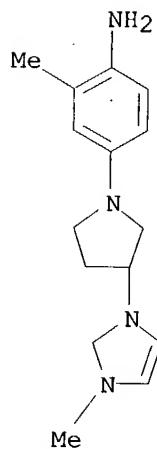
RN 607355-13-5 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



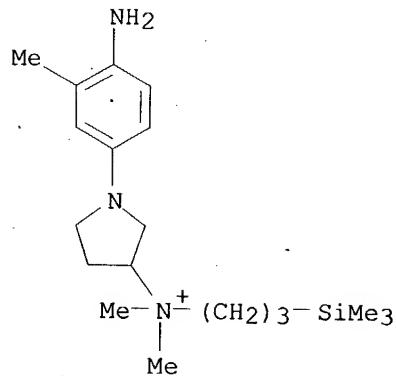
● Cl<sup>-</sup>

RN 607355-16-8 HCAPLUS  
CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

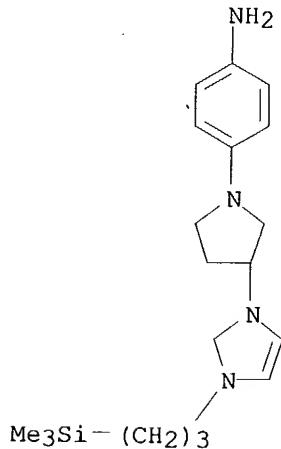
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 607355-17-9 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-18-0 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)

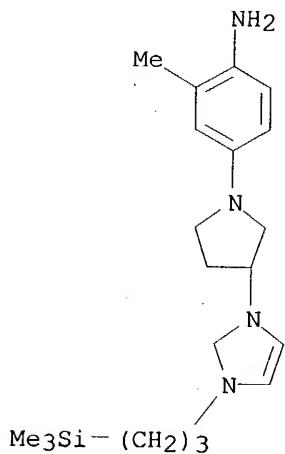


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 607355-19-1 HCPLUS

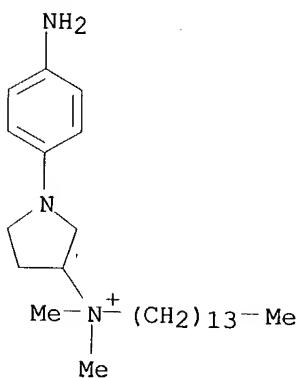
CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



●  $\text{Cl}^-$

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-01-1 HCPLUS

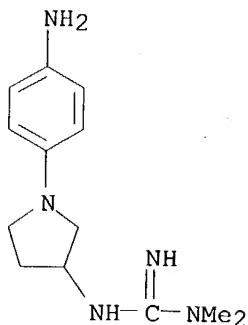
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-tetradecyl-, bromide  
(9CI) (CA INDEX NAME)



●  $\text{Br}^-$

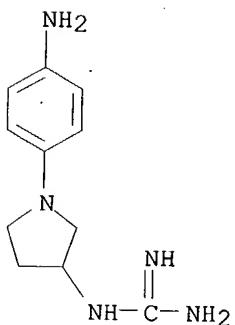
RN 701975-04-4 HCPLUS

CN Guanidine, N'-[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N-dimethyl-,  
monohydrochloride (9CI) (CA INDEX NAME)



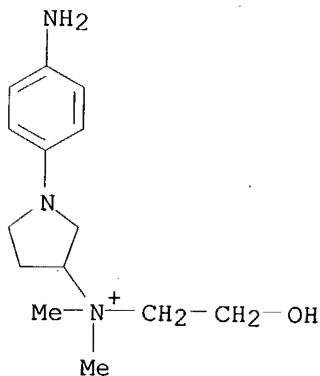
● HCl

RN 701975-07-7 HCPLUS  
CN Guanidine, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-, monohydrochloride (9CI)  
(CA INDEX NAME)



● HCl

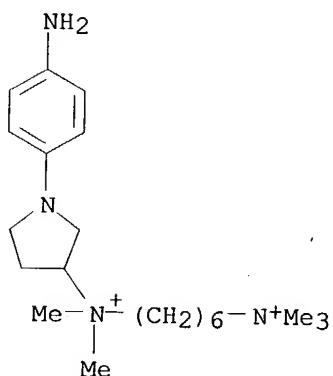
RN 701975-08-8 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-09-9 HCPLUS

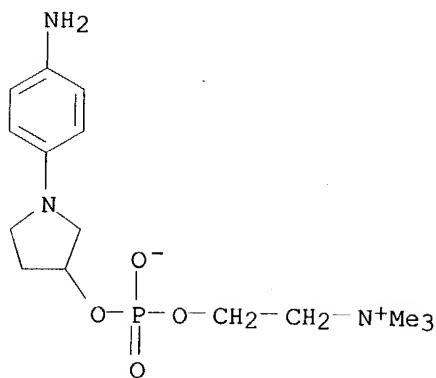
CN 1,6-Hexanediaminium, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N,N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)



●2 Cl<sup>-</sup>

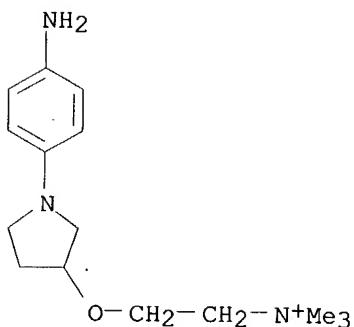
RN 701975-10-2 HCPLUS

CN Ethanaminium, 2-[[[1-(4-aminophenyl)-3-pyrrolidinyl]oxy]hydroxyphosphoryl]oxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)



RN 701975-11-3 HCAPLUS

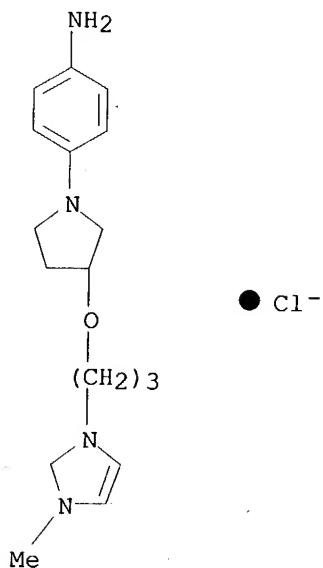
CN Ethanaminium, 2-[(1-(4-aminophenyl)-3-pyrrolidinyl)oxy]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-13-5 HCAPLUS

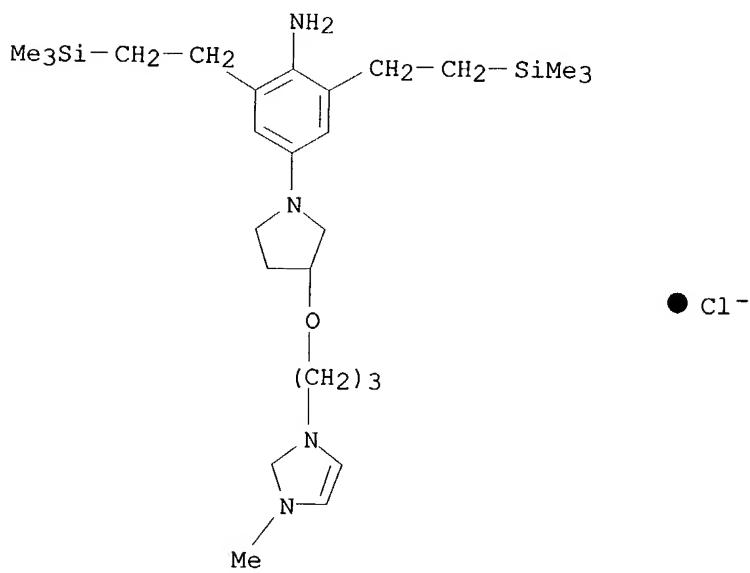
CN 1H-Imidazolium, 1-[3-[(1-(4-aminophenyl)-3-pyrrolidinyl)oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-15-7 HCPLUS

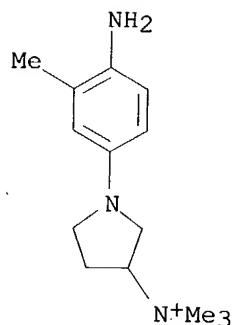
CN 1H-Imidazolium, 1-[3-[(1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl)oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

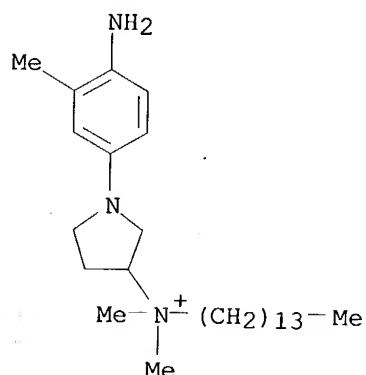
RN 701975-16-8 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



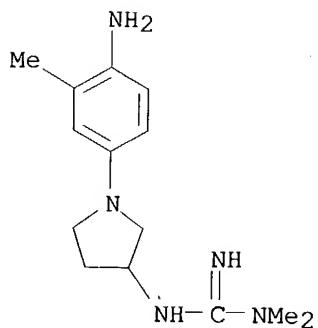
● Cl<sup>-</sup>

RN 701975-17-9 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-tetradecyl-, chloride (9CI) (CA INDEX NAME)



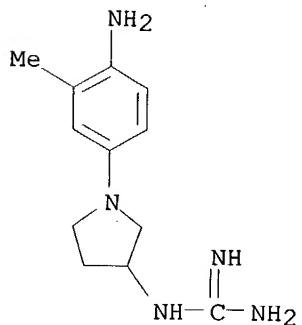
● Cl<sup>-</sup>

RN 701975-18-0 HCPLUS  
CN Guanidine, N'-(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)-N,N-dimethyl-, monohydrochloride (9CI) (CA INDEX NAME)



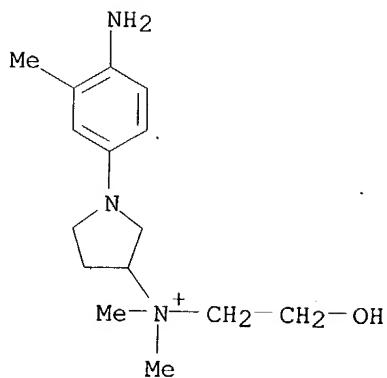
● HCl

RN 701975-19-1 HCPLUS  
CN Guanidine, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

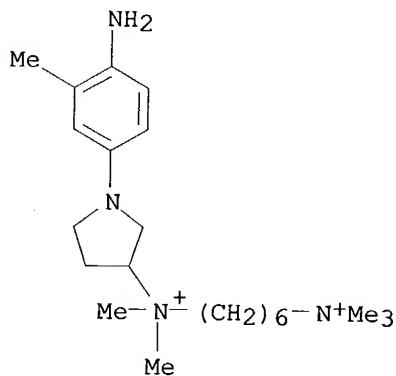
RN 701975-20-4 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



●  $Cl^-$

RN 701975-21-5 HCPLUS

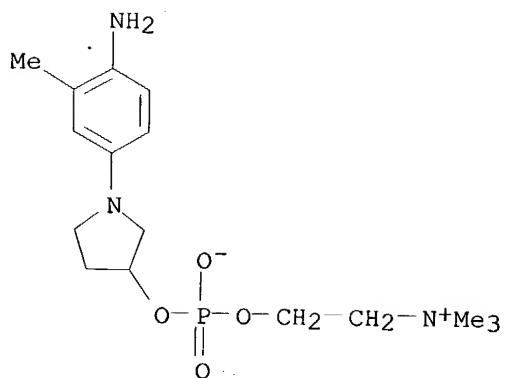
CN 1,6-Hexanediaminium, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-N,N,N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)



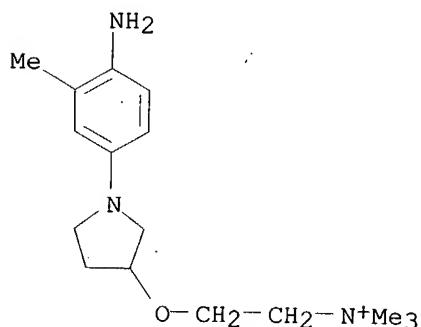
●2  $Cl^-$

RN 701975-22-6 HCPLUS

CN Ethanaminium, 2-[[[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy]hydroxyphosphinyl]oxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)

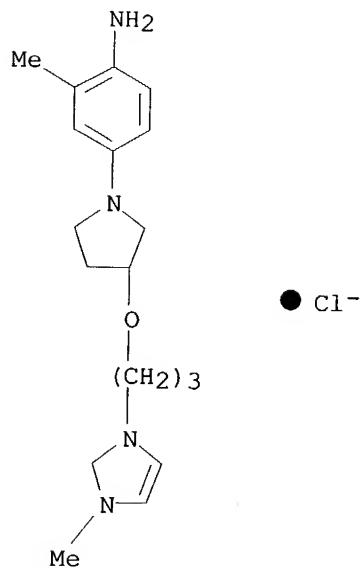


RN 701975-23-7 HCAPLUS  
CN Ethanaminium, 2-[(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)oxy]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)

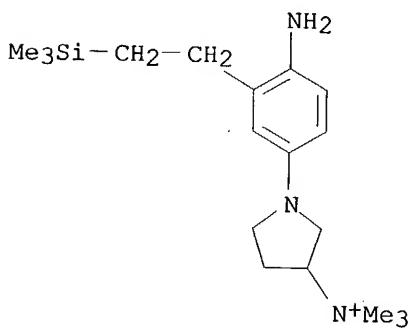


●  $\text{Cl}^-$

RN 701975-25-9 HCAPLUS  
CN 1H-Imidazolium, 1-[3-[(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

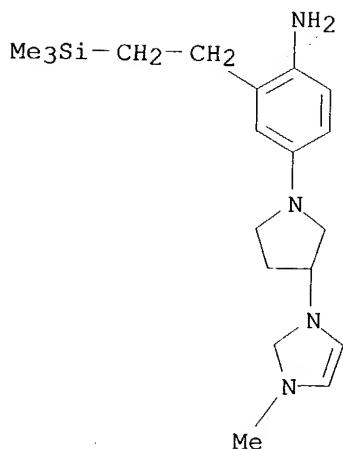


ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-27-1 HCPLUS  
CN 3-Pyrrolidinaminium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl-

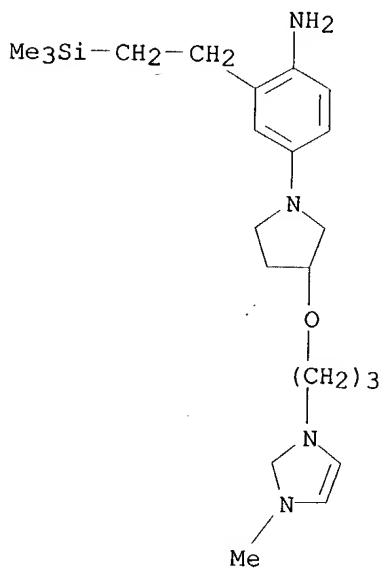
RN 701975-28-2 HCPLUS  
CN 1H-Imidazolium, 1-[1-[4-amino-3-[(2R,3S)-3-methyl-2-(trimethylsilyl)propyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-29-3 HCPLUS

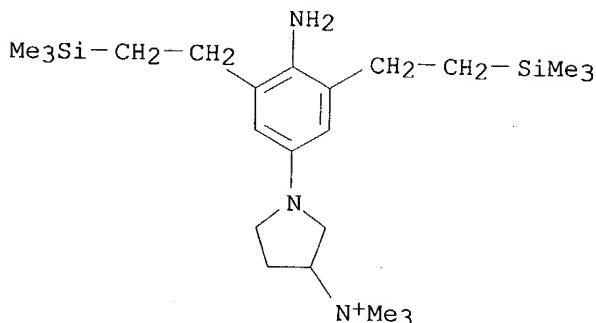
CN 1H-Imidazolium, 1-[3-[(1-methylpyrrolidinyl)oxy]propyl]-3-(4-(trimethylsilyl)phenyl)-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

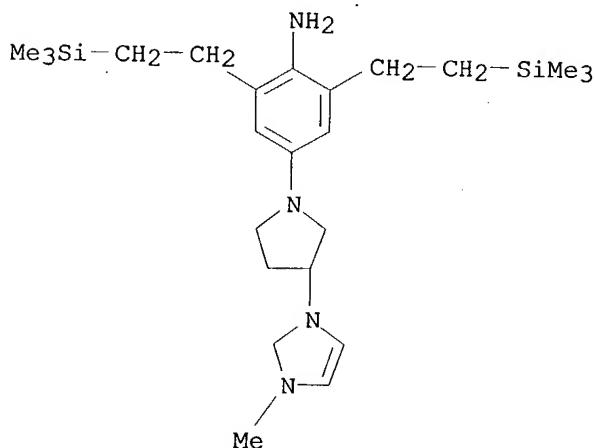
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-30-6 HCPLUS

CN 3-Pyrrolidinaminium, 1-[4-amino-3,5-bis(2-(trimethylsilyl)ethyl)phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



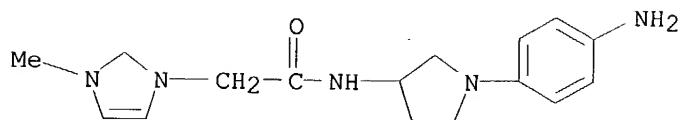
● Cl-

RN 701975-31-7 HCAPLUS  
CN 1H-Imidazolium, 1-[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-32-8 HCAPLUS  
CN 1H-Imidazolium, 1-[2-[(1-(4-aminophenyl)-3-pyrrolidinyl)amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

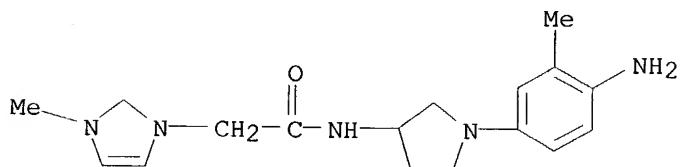


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-33-9 HCPLUS

CN 1H-Imidazolium, 1-[2-[(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

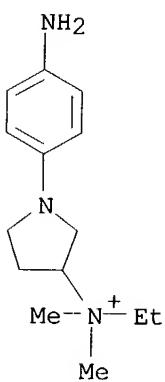


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-34-0 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

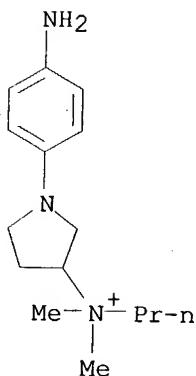
RN 701975-35-1 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, methyl chloride

sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 435275-63-1  
CMF C15 H26 N3



CM 2

CRN 21228-90-0  
CMF C H3 O4 S

Me-O-SO<sub>3</sub><sup>-</sup>

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L31	ANSWER 3 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
AN	2004:482171 HCAPLUS
DN	141:42543
TI	Hair dyeing compositions comprising a tertiary p-phenylenediamine with a pyrrolidine ring and a polyol ester
IN	Cotteret, Jean; Lagrange, Alain
PA	L'oreal, Fr.
SO	Eur. Pat. Appl., 49 pp. CODEN: EPXXDW
DT	Patent
LA	French
FAN.CNT	1
	PATENT NO. KIND DATE APPLICATION NO. DATE
PI	EP 1428516 A1 20040616 EP 2003-293141 20031212 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK FR 2848443 A1 20040618 FR 2002-15776 20021213 US 2004211010 A1 20041028 US 2003-734612 20031212
PRAI	FR 2002-15776 A 20021213 US 2003-444625P P 20030204
OS	MARPAT 141:42543

*Applicant*

AB Hair dyeing compns. comprising a tertiary p-phenylenediamine with a pyrrolidine ring and a polyol ester. Thus, a composition contained oleyl alc. 4, oleic acid 5, diglyceryl oleyl ether 4, tetraglyceryl oleyl ether 3.6, ethoxylated amino acid 8, ethoxylated oleylamine 4, ethoxylated decyl ether 2.7, PEG oleate 2.5., adipic acid 1.3, reducing agents 0.63, sequestrants 1, resorcinol 0.085, [1-(4-aminophenyl)pyrrolidin-3-yl]trimethylammonium chloride 0.8, 5-N(β-hydroxyethyl)amino-2-methylphenol 0.4, perfume qs, ammonia 10, and water qs to 100 g. The above composition was mixed with 6% H<sub>2</sub>O<sub>2</sub> and applied onto hair.

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

ST hair dye phenylenediamine pyrrolidine polyol ester

IT Phenols, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(amino; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)

IT Surfactants  
(amphoteric; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)

IT Surfactants  
(anionic; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)

IT Polyelectrolytes  
Surfactants  
(cationic; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)

IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(diamines, aromatic; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)

IT Dyes  
(direct; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)

IT Hair preparations  
(dyes, oxidative; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)

IT Hair preparations  
(dyes; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)

IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(esters, with polyols; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)

IT Human  
Oxidizing agents  
Surfactants  
Thickening agents  
(hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)

IT Bromates  
Ethers, biological studies  
Glycerides, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)

IT Surfactants  
(nonionic; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and polyol ester)

IT Carboxylic acids, biological studies

IT RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(peroxy; hair dyeing compns. comprising cationic phenylenediamine with  
pyrrolidine ring and polyol ester)

IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(phenolic; hair dyeing compns. comprising cationic phenylenediamine  
with pyrrolidine ring and polyol ester)

IT Alcohols, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(polyhydric, esters; hair dyeing compns. comprising cationic  
phenylenediamine with pyrrolidine ring and polyol ester)

IT Alcohols, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(polyhydric, ethoxylated, esters; hair dyeing compns. comprising  
cationic phenylenediamine with pyrrolidine ring and polyol ester)

IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses).  
(salts, peroxy; hair dyeing compns. comprising cationic  
phenylenediamine with pyrrolidine ring and polyol ester)

IT Surfactants  
(zwitterionic; hair dyeing compns. comprising cationic phenylenediamine  
with pyrrolidine ring and polyol ester)

IT 50-70-4D, Sorbitol, esters with carboxylic acids 50-99-7D, Glucose,  
esters with carboxylic acids 56-81-5, Glycerol, biological studies  
57-11-4D, Stearic acid, esters with polyols 57-55-6, Propylene glycol,  
biological studies 57-55-6D, Propylene glycol, esters with carboxylic  
acids 64-17-5, Ethanol, biological studies 90-15-3, 1-Naphthol  
95-55-6D, o-Aminophenol, derivs. 95-88-5, 4-ChloroResorcinol  
106-50-3D, p-Phenylenediamine, derivs. 107-21-1D, Ethylene glycol,  
esters with carboxylic acids 108-45-2, 1,3-Diaminobenzene, biological  
studies 108-45-2D, m-Phenylenediamine, derivs. 108-46-3, Resorcinol,  
biological studies 108-46-3D, Resorcinol, derivs. 111-60-4, Tegin  
EGMS-VA 112-80-1D, Oleic acid, esters with polyols 123-30-8D,  
p-Aminophenol, derivs. 124-43-6 141-22-0D, Ricinoleic acid, esters  
with polyols 143-07-7D, Lauric acid, esters with polyols 533-31-3,  
Sesamol 591-27-5D, m-Aminophenol, derivs. 608-25-3, 2-MethylResorcinol  
627-83-8, Cutina AGS 2380-86-1, 6-Hydroxyindole 2380-94-1,  
4-Hydroxyindole 7469-77-4, 2-Methyl-1-naphthol 7556-37-8 7722-84-1,  
Hydrogen peroxide, biological studies 9004-81-3, Polyethylene glycol  
laurate 9004-96-0, Polyethylene glycol oleate 9005-64-5, Polysorbate  
20 9035-73-8, Oxidase 11099-07-3, Glyceryl stearate 16867-03-1,  
2-Amino-3-hydroxypyridine 25711-72-2, 3-Ureido aniline 26021-57-8,  
6-Hydroxybenzomorpholine 26455-21-0 30399-84-9D, Isostearic acid,  
esters with polyols 37220-82-9, Glyceryl oleate 57107-97-8,  
Polyoxyethylene glyceryl oleate 57485-50-4, Polyoxyethylene glyceryl  
stearate 67167-59-3, Polyethylene glycol stearate 70643-19-5  
81329-90-0 81892-72-0 85679-78-3, 3,5-DiAmino-2,6-dimethoxypyridine  
149330-25-6 150372-93-3, Polyoxyethylene glyceryl laurate 402941-00-8  
**435275-61-9 435275-62-0 435275-65-3**  
**435275-66-4 435275-67-5 435275-68-6**  
**435275-69-7 435275-70-0 435275-72-2**  
**435275-73-3 435275-74-4 435275-82-4**  
**607355-12-4 607355-13-5 607355-16-8**  
**607355-17-9 607355-18-0 607355-19-1**  
**607355-20-4 607355-21-5 701975-01-1 701975-04-4**  
**701975-07-7 701975-08-8 701975-09-9**  
**701975-10-2 701975-11-3 701975-12-4**  
**701975-13-5 701975-14-6 701975-15-7**  
**701975-16-8 701975-17-9 701975-18-0**

701975-19-1 701975-20-4 701975-21-5  
701975-22-6 701975-23-7 701975-24-8  
701975-25-9 701975-26-0 701975-27-1  
701975-28-2 701975-29-3 701975-30-6  
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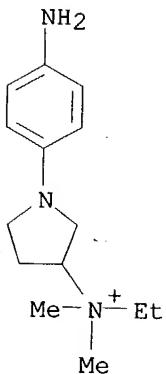
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising cationic phenylenediamine  
with pyrrolidine ring and polyol ester)

IT 435275-61-9 435275-62-0 435275-65-3  
435275-66-4 435275-67-5 435275-68-6  
435275-69-7 435275-70-0 435275-72-2  
435275-73-3 435275-74-4 435275-82-4  
607355-12-4 607355-13-5 607355-16-8  
607355-17-9 607355-18-0 607355-19-1  
701975-01-1 701975-04-4 701975-07-7  
701975-08-8 701975-09-9 701975-10-2  
701975-11-3 701975-13-5 701975-15-7  
701975-16-8 701975-17-9 701975-18-0  
701975-19-1 701975-20-4 701975-21-5  
701975-22-6 701975-23-7 701975-25-9  
701975-27-1 701975-28-2 701975-29-3  
701975-30-6 701975-31-7 701975-32-8  
701975-33-9 701975-34-0 701975-35-1

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising cationic phenylenediamine  
with pyrrolidine ring and polyol ester)

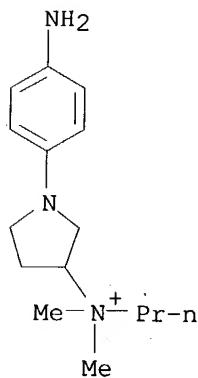
RN 435275-61-9 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



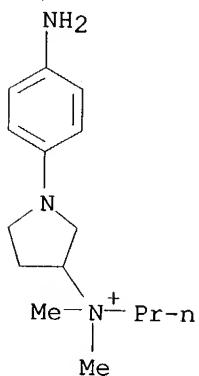
RN 435275-62-0 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, iodide  
(9CI) (CA INDEX NAME)



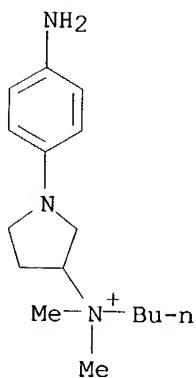
● I<sup>-</sup>

RN 435275-65-3 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, bromide  
(9CI) (CA INDEX NAME)



● Br<sup>-</sup>

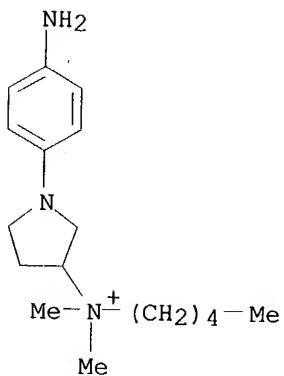
RN 435275-66-4 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-butyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-67-5 HCPLUS

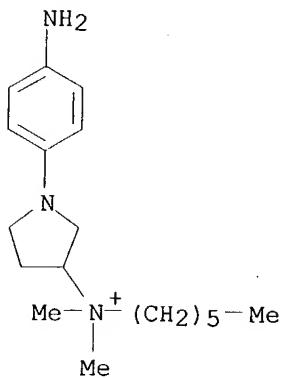
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-pentyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-68-6 HCPLUS

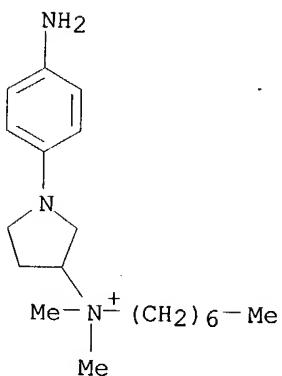
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-69-7 HCPLUS

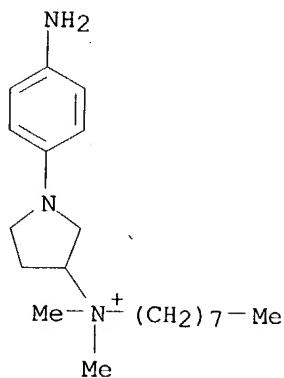
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-heptyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-70-0 HCPLUS

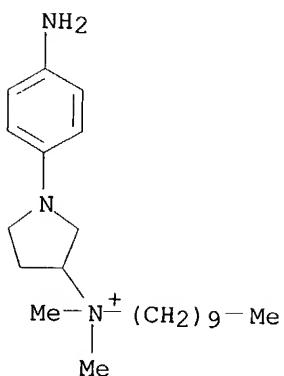
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-octyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-72-2 HCPLUS

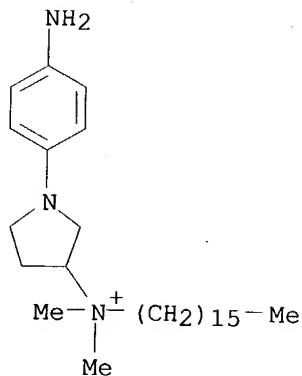
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-decyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-73-3 HCPLUS

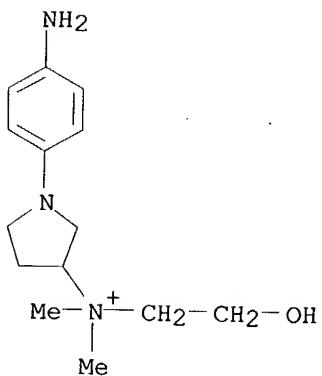
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexadecyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



● I-

RN 435275-74-4 HCPLUS

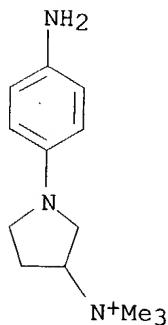
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, iodide (9CI) (CA INDEX NAME)



● II-

RN 435275-82-4 HCPLUS

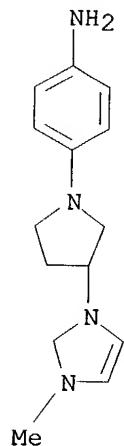
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-12-4 HCAPLUS

CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-methyl-, chloride  
(9CI) (CA INDEX NAME)

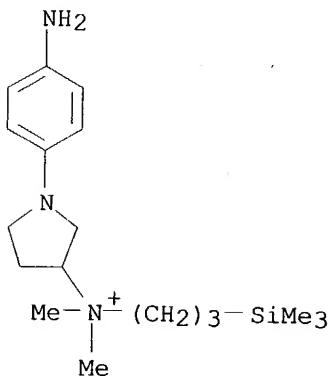


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

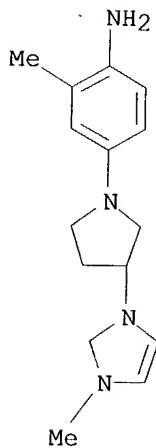
RN 607355-13-5 HCAPLUS

CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



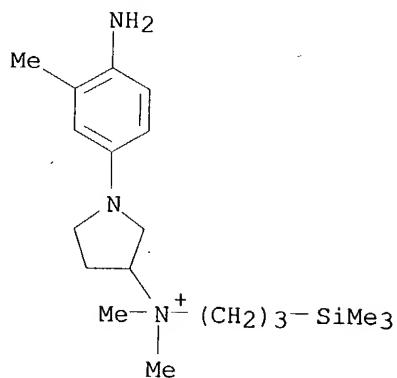
● Cl<sup>-</sup>

RN 607355-16-8 HCPLUS  
CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

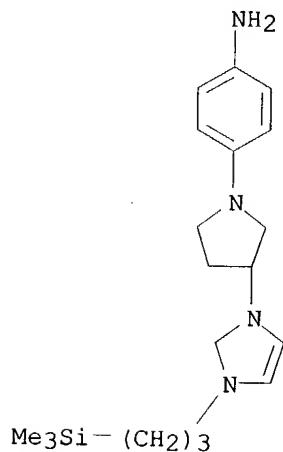
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 607355-17-9 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-18-0 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)

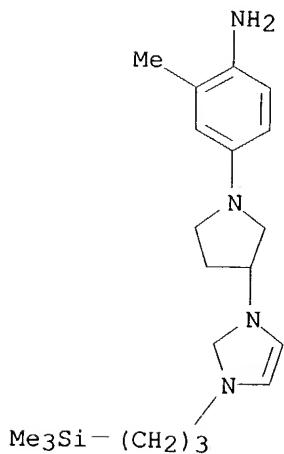


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 607355-19-1 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)

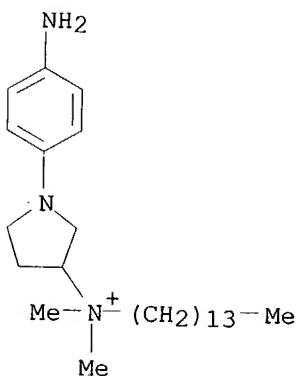


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-01-1 HCPLUS

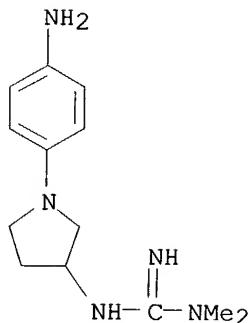
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-tetradecyl-, bromide  
(9CI) (CA INDEX NAME)



● Br<sup>-</sup>

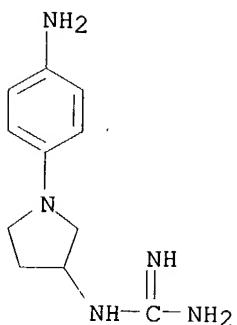
RN 701975-04-4 HCPLUS

CN Guanidine, N'-[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N-dimethyl-,  
monohydrochloride (9CI) (CA INDEX NAME)



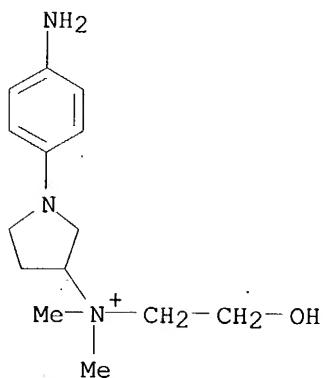
● HCl

RN 701975-07-7 HCPLUS  
CN Guanidine, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-, monohydrochloride (9CI)  
(CA INDEX NAME)



● HCl

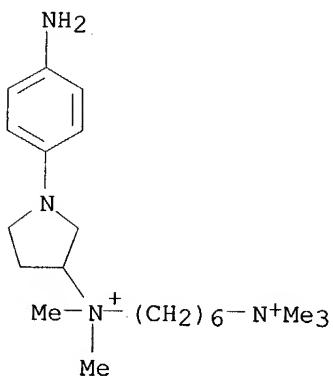
RN 701975-08-8 HCPLUS  
CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-09-9 HCAPLUS

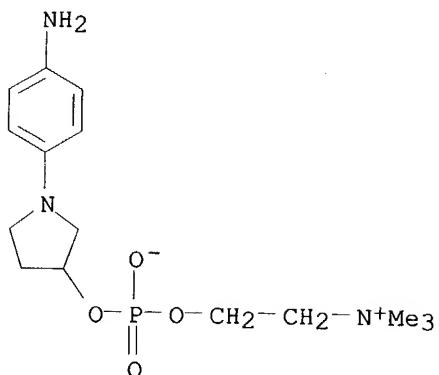
CN 1,6-Hexanediaminium, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N',N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)



●2 Cl<sup>-</sup>

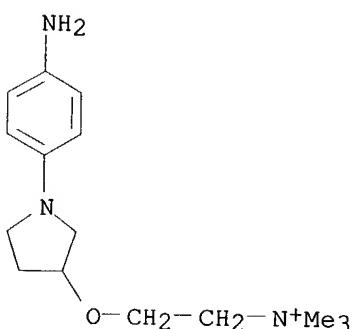
RN 701975-10-2 HCAPLUS

CN Ethanaminium, 2-[[[[1-(4-aminophenyl)-3-pyrrolidinyl]oxy]hydroxyphosphinyl]oxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)



RN 701975-11-3 HCAPLUS

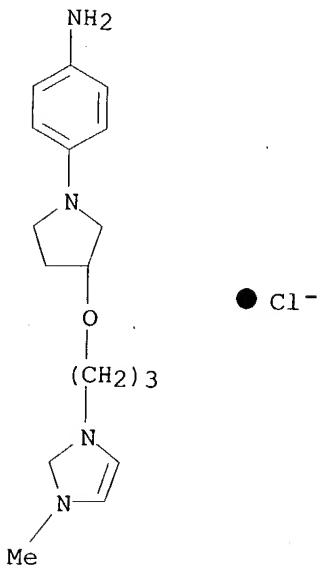
CN Ethanaminium, 2-[[1-(4-aminophenyl)-3-pyrrolidinyl]oxy]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

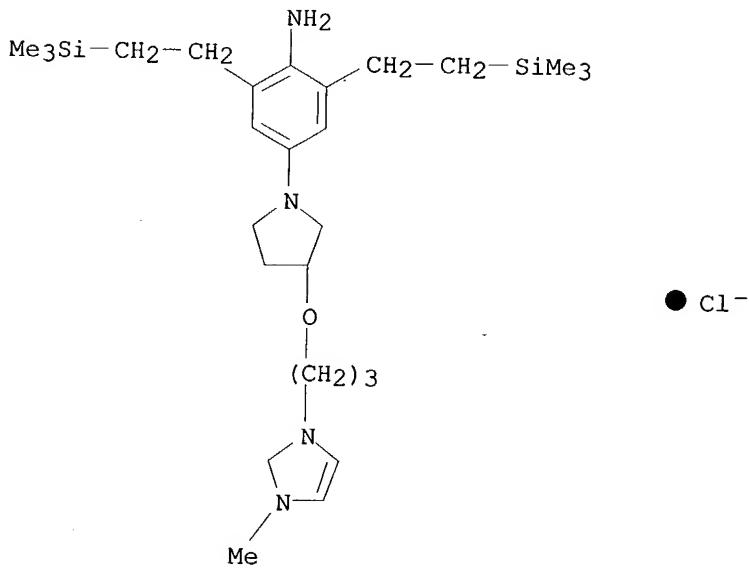
RN 701975-13-5 HCAPLUS

CN 1H-Imidazolium, 1-[3-[[1-(4-aminophenyl)-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



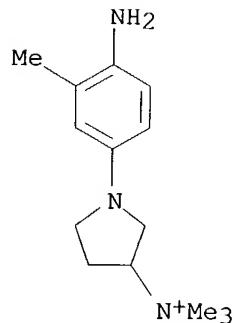
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-15-7 HCPLUS

CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



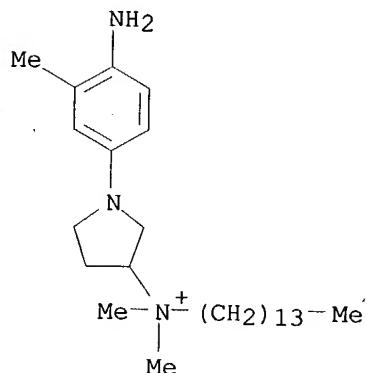
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-16-8 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



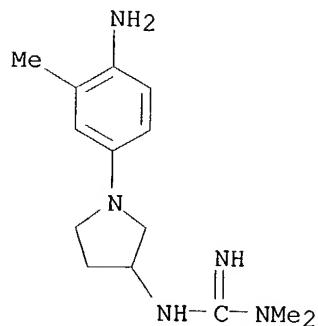
● Cl<sup>-</sup>

RN 701975-17-9 HCPLUS  
CN 3-Pyrrolidinamininium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-tetradecyl-, chloride (9CI) (CA INDEX NAME)



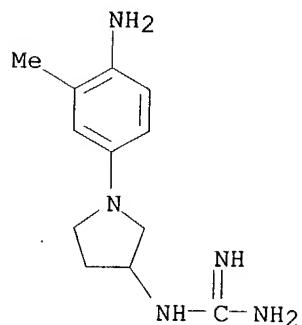
● Cl<sup>-</sup>

RN 701975-18-0 HCPLUS  
CN Guanidine, N'-(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)-N,N-dimethyl-, monohydrochloride (9CI) (CA INDEX NAME)



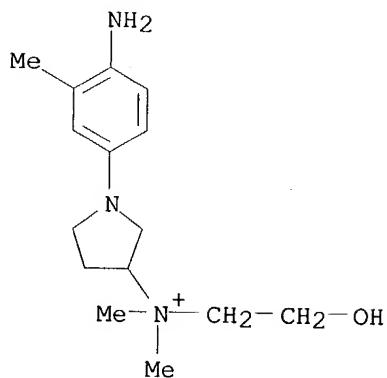
● HCl

RN 701975-19-1 HCPLUS  
CN Guanidine, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

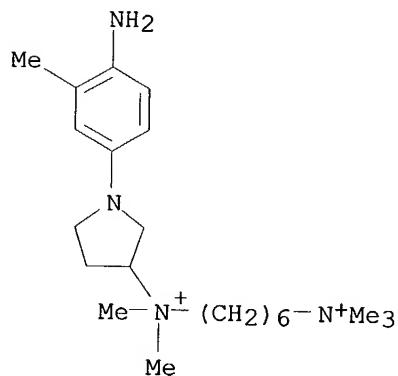
RN 701975-20-4 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



●  $Cl^-$

RN 701975-21-5 HCPLUS

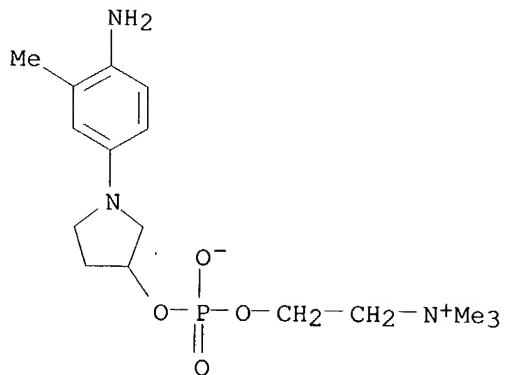
CN 1,6-Hexanediaminium, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-N,N,N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)



●2  $Cl^-$

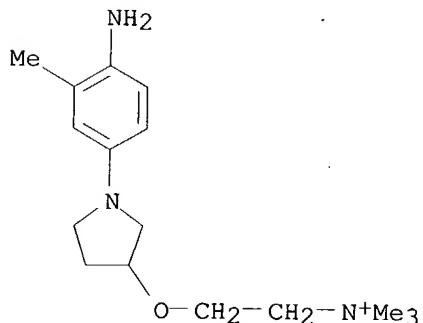
RN 701975-22-6 HCPLUS

CN Ethanaminium, 2-[[[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy]hydroxyphosphinyl]oxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)



RN 701975-23-7 HCPLUS

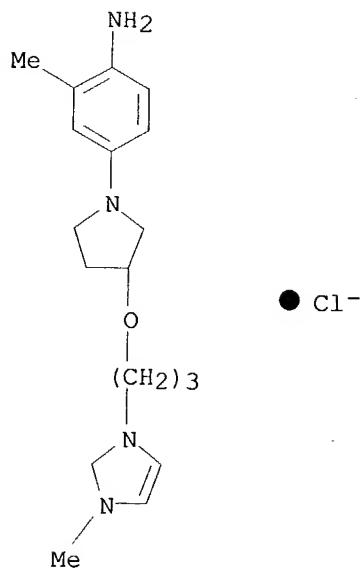
CN Ethanaminium, 2-[(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)oxy]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-25-9 HCPLUS

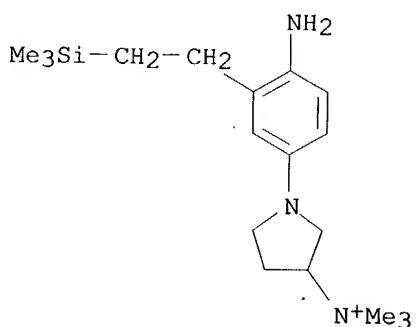
CN 1H-Imidazolium, 1-[3-[(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-27-1 HCPLUS

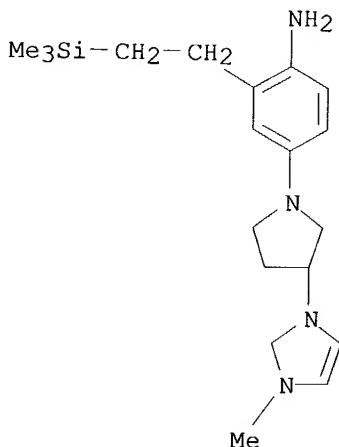
CN 3-Pyrrolidinaminium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl-

RN 701975-28-2 HCPLUS

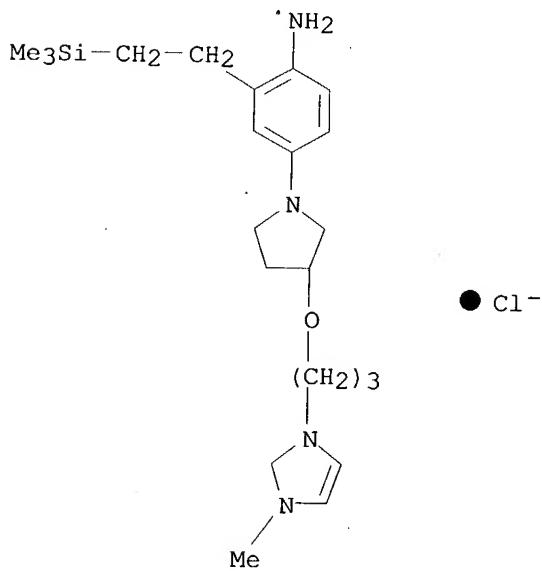
CN 1H-Imidazolium, 1-[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-29-3 HCPLUS

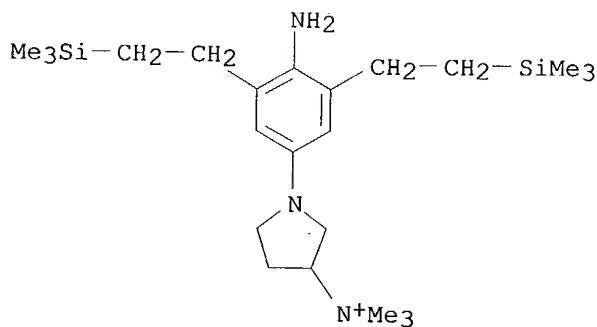
CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3-(2-(trimethylsilyl)ethyl)phenyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

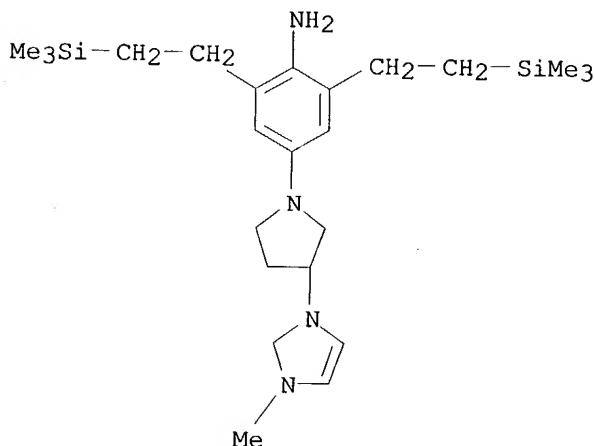
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-30-6 HCPLUS

CN 3-Pyrrolidinaminium, 1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



• Cl<sup>-</sup>

RN 701975-31-7 HCAPLUS  
CN 1H-Imidazolium, 1-[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

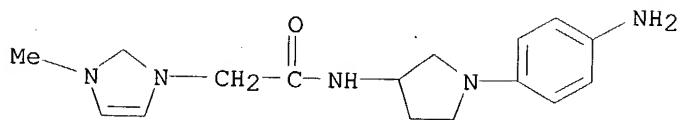


• Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-32-8 HCAPLUS

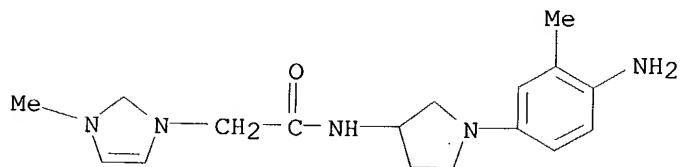
CN 1H-Imidazolium, 1-[2-[(1-(4-aminophenyl)-3-pyrrolidinyl]amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-33-9 HCAPLUS

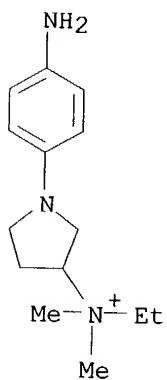
CN 1H-Imidazolium, 1-[2-[(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-34-0 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

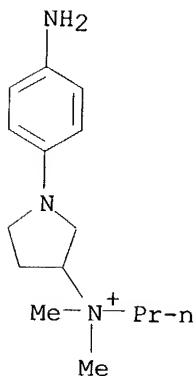
RN 701975-35-1 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, methyl

sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 435275-63-1  
CMF C15 H26 N3



CM 2

CRN 21228-90-0  
CMF C H3 O4 S

Me—O—SO<sub>3</sub><sup>—</sup>

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L31 ANSWER 4 OF 19 HCPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:482170 HCPLUS  
DN 141:42542  
TI Hair dyeing compositions comprising a tertiary cationic p-phenylenediamine with a pyrrolidine ring and a surfactant  
IN Cotteret, Jean; Lagrange, Alain  
PA L'oreal, Fr.  
SO Eur. Pat. Appl., 53 pp.  
CODEN: EPXXDW  
DT Patent  
LA French  
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1428515	A1	20040616	EP 2003-293140	20031212
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK FR 2848437	A1	20040618	FR 2002-15770	20021213
US 2004216243	A1	20041104	US 2003-735262	20031212
PRAI FR 2002-15770	A	20021213		
US 2003-444654P	P	20030204		
OS MARPAT 141:42542				

AB Hair dyeing compns. comprise a tertiary cationic p-phenylenediamine with a pyrrolidine ring and a surfactant such as a glyceryl ether. Thus, a composition contained oleyl alc. 6, oleic acid 3, diglyceryl oleyl ether 6, hexaglyceryl oleyl ether 6, diethylaminopropyl laurylaminosuccinamate sodium salt 3, ethoxylated oleylamine 7, ethoxylated alkyl ether monoethanolamide 10, ammonium acetate 20, hexylene glycol 20, reducing agents 0.915, sequestrants 1, resorcinol 0.085, [1-(4-aminophenyl)pyrrolidin-3-yl]trimethylammonium chloride 1.0, 2-methyl-5-aminophenol 0.5, perfume qs, ammonia 10.2, and water qs to 100 g. The above composition was mixed with 6% H<sub>2</sub>O<sub>2</sub> and applied onto hair.

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

ST hair dye phenylenediamine pyrrolidine surfactant

IT Phenols, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(amino; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)

IT Surfactants  
(amphoteric; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)

IT Surfactants  
(anionic; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)

IT Polyelectrolytes

IT Surfactants  
(cationic; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)

IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(diamines, aromatic; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)

IT Dyes  
(direct; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)

IT Hair preparations  
(dyes, oxidative; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)

IT Hair preparations  
(dyes; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)

IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(ethoxylated; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)

IT Human

Oxidizing agents

Surfactants

Thickening agents  
(hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)

IT Bromates

Ethers, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)

IT Surfactants  
(nonionic; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and surfactant)

IT Carboxylic acids, biological studies

IT RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(peroxy; hair dyeing compns. comprising cationic phenylenediamine with  
pyrrolidine ring and surfactant)

IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(phenolic; hair dyeing compns. comprising cationic phenylenediamine  
with pyrrolidine ring and surfactant)

IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(salts, ethoxylated; hair dyeing compns. comprising cationic  
phenylenediamine with pyrrolidine ring and surfactant)

IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(salts, peroxy; hair dyeing compns. comprising cationic  
phenylenediamine with pyrrolidine ring and surfactant)

IT Surfactants  
(zwitterionic; hair dyeing compns. comprising cationic phenylenediamine  
with pyrrolidine ring and surfactant)

IT 56-81-5, Glycerol, biological studies 56-81-5D, Glycerol, alkyl ethers  
57-55-6, Propylene glycol, biological studies 64-17-5, Ethanol,  
biological studies 90-15-3, 1-Naphthol 95-55-6D, o-Aminophenol,  
derivs. 95-88-5, 4-ChloroResorcinol 106-50-3D, p-Phenylenediamine,  
derivs. 108-45-2, 1,3-Diaminobenzene, biological studies 108-45-2D,  
m-Phenylenediamine, derivs. 108-46-3, Resorcinol, biological studies  
108-46-3D, Resorcinol, derivs. 123-30-8D, p-Aminophenol, derivs.  
124-43-6 533-31-3, Sesamol 591-27-5D, m-Aminophenol, derivs.  
608-25-3, 2-MethylResorcinol 2380-86-1, 6-Hydroxyindole 2380-94-1,  
4-Hydroxyindole 7469-77-4, 2-Methyl-1-naphthol 7556-37-8 7722-84-1,  
Hydrogen peroxide, biological studies 9035-73-8, Oxidase 16867-03-1,  
2-Amino-3-hydroxypyridine 25711-72-2, 3-Ureido aniline 26021-57-8,  
6-Hydroxybenzomorpholine 26455-21-0 70643-19-5 75278-96-5,  
Diglycerol monolauryl ether 75345-50-5, Glycerol monododecyl ether  
79665-92-2 81329-90-0 81892-72-0 85679-78-3, 3,5-DiAmino-2,6-  
dimethoxypyridine 95012-79-6 112708-25-5, Tetraglycerol monooleyl  
ether 149330-25-6 182374-74-9, Hexaglycerol monoctadecyl ether  
402941-00-8 435275-61-9 435275-62-0  
435275-65-3 435275-66-4 435275-67-5  
435275-68-6 435275-69-7 435275-70-0  
435275-72-2 435275-73-3 435275-74-4  
435275-82-4 607355-12-4 607355-13-5  
607355-16-8 607355-17-9 607355-18-0  
607355-19-1 607355-20-4 607355-21-5 701975-01-1  
701975-04-4 701975-07-7 701975-08-8  
701975-09-9 701975-10-2 701975-11-3  
701975-12-4 701975-13-5 701975-14-6 701975-15-7  
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701975-19-1 701975-20-4 701975-21-5  
701975-22-6 701975-23-7 701975-24-8  
701975-25-9 701975-26-0 701975-27-1  
701975-28-2 701975-29-3 701975-30-6  
701975-31-7 701975-32-8 701975-33-9  
701975-34-0 701975-35-1  
IT RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising cationic phenylenediamine  
with pyrrolidine ring and surfactant)

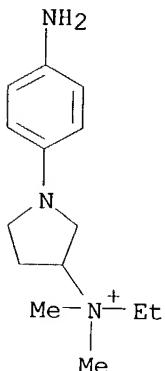
IT 435275-61-9 435275-62-0 435275-65-3  
435275-66-4 435275-67-5 435275-68-6  
435275-69-7 435275-70-0 435275-72-2  
435275-73-3 435275-74-4 435275-82-4

607355-12-4 607355-13-5 607355-16-8  
607355-17-9 607355-18-0 607355-19-1  
701975-01-1 701975-04-4 701975-07-7  
701975-08-8 701975-09-9 701975-10-2  
701975-11-3 701975-13-5 701975-15-7  
701975-16-8 701975-17-9 701975-18-0  
701975-19-1 701975-20-4 701975-21-5  
701975-22-6 701975-23-7 701975-25-9  
701975-27-1 701975-28-2 701975-29-3  
701975-30-6 701975-31-7 701975-32-8  
701975-33-9 701975-34-0 701975-35-1

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising cationic phenylenediamine  
with pyrrolidine ring and surfactant)

RN 435275-61-9 HCPLUS

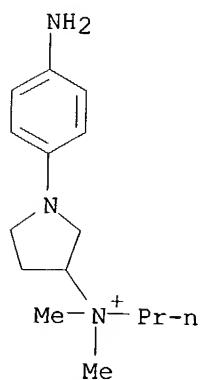
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I-

RN 435275-62-0 HCPLUS

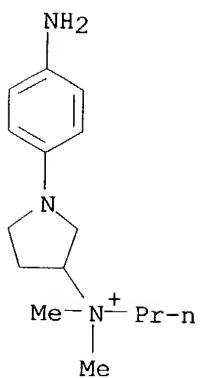
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-65-3 HCPLUS

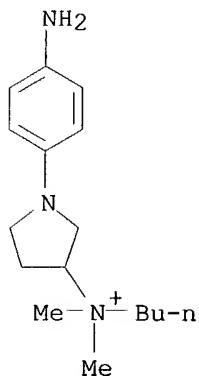
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, bromide  
(9CI) (CA INDEX NAME)



● Br<sup>-</sup>

RN 435275-66-4 HCPLUS

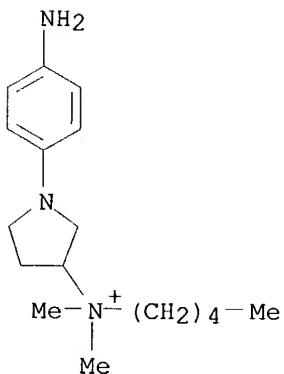
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-butyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-67-5 HCPLUS

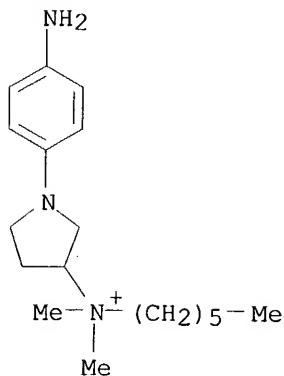
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-pentyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

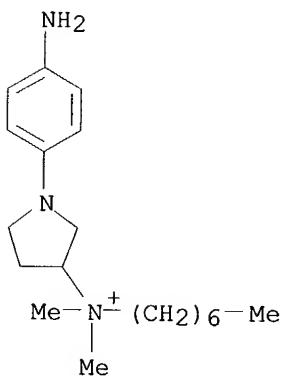
RN 435275-68-6 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



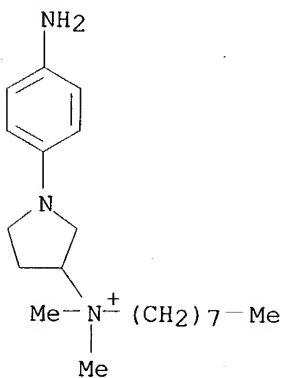
● I<sup>-</sup>

RN 435275-69-7 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-heptyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

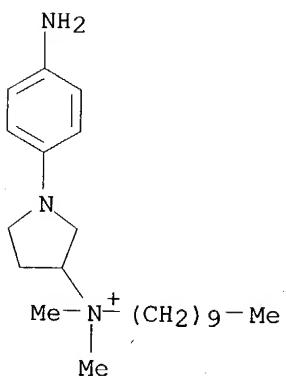
RN 435275-70-0 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-octyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-72-2 HCPLUS

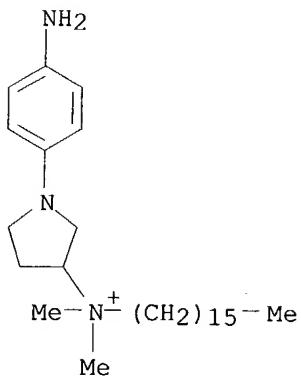
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-decyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-73-3 HCPLUS

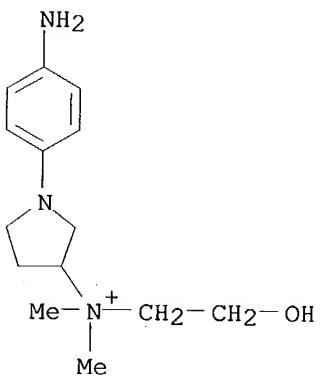
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexadecyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-74-4 HCPLUS

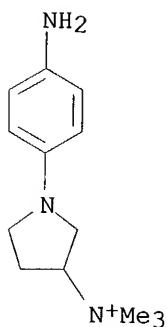
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

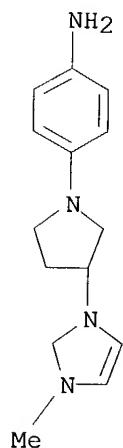
RN 435275-82-4 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



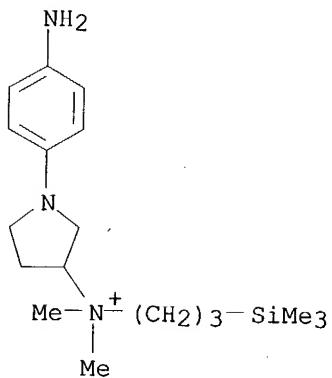
● Cl<sup>-</sup>

RN 607355-12-4 HCAPLUS  
CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-methyl-, chloride  
(9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

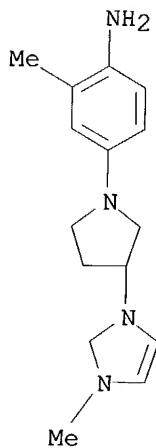
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 607355-13-5 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-16-8 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

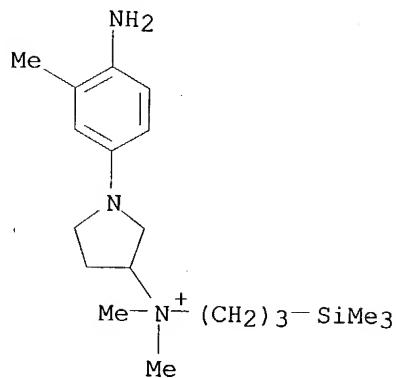


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 607355-17-9 HCPLUS

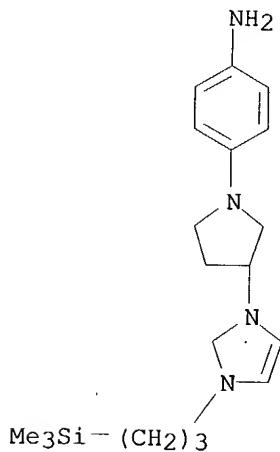
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-18-0 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)

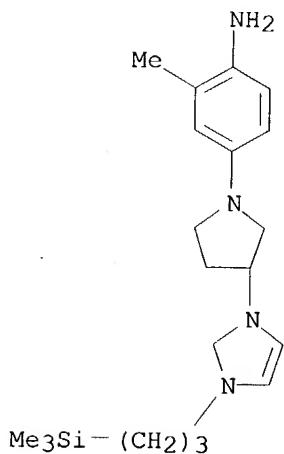


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 607355-19-1 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)

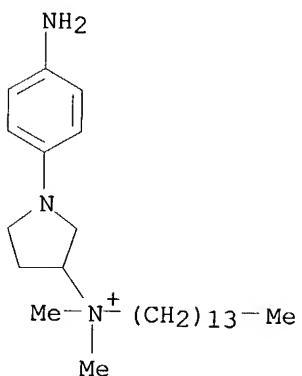


●  $\text{Cl}^-$

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-01-1 HCPLUS

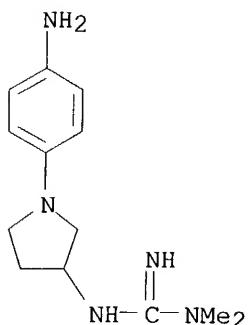
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-tetradecyl-, bromide  
(9CI) (CA INDEX NAME)



●  $\text{Br}^-$

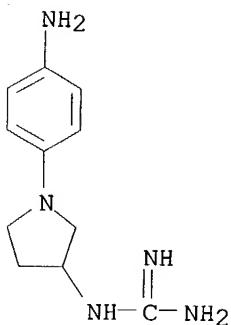
RN 701975-04-4 HCPLUS

CN Guanidine, N'-[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N-dimethyl-,  
monohydrochloride (9CI) (CA INDEX NAME)



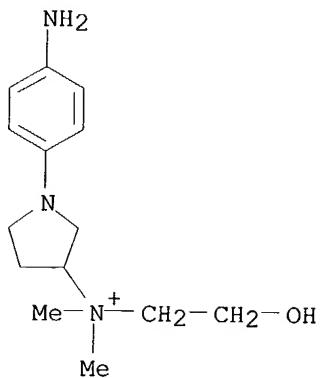
● HCl

RN 701975-07-7 HCPLUS  
CN Guanidine, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-, monohydrochloride (9CI)  
(CA INDEX NAME)



● HCl

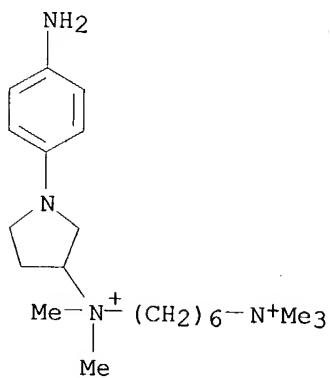
RN 701975-08-8 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-,  
chloride (9CI) (CA INDEX NAME)



●  $\bullet \text{Cl}^-$

RN 701975-09-9 HCPLUS

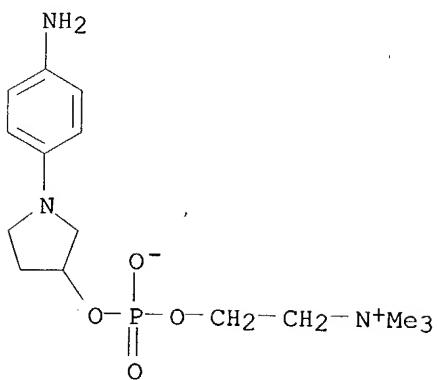
CN 1,6-Hexanediaminium, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N,N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)



● 2  $\bullet \text{Cl}^-$

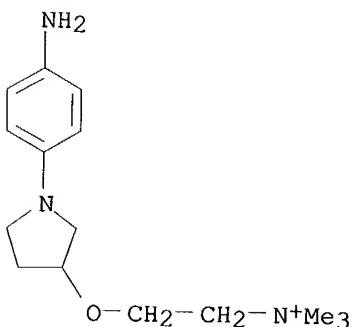
RN 701975-10-2 HCPLUS

CN Ethanaminium, 2-[[[[1-(4-aminophenyl)-3-pyrrolidinyl]oxy]hydroxyphosphoryl]oxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)



RN 701975-11-3 HCAPLUS

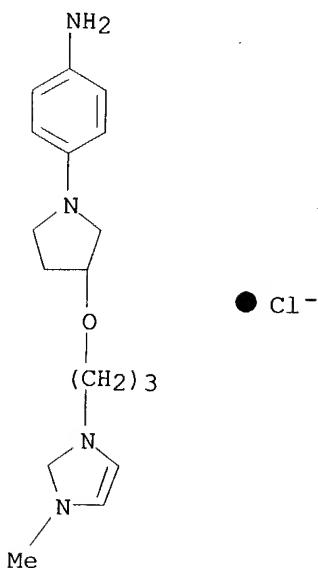
CN Ethanaminium, 2-[(1-(4-aminophenyl)-3-pyrrolidinyl)oxy]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

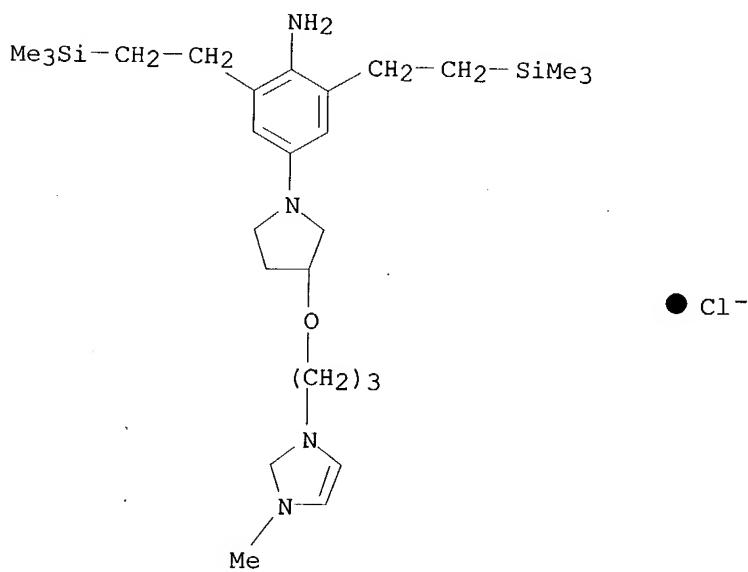
RN 701975-13-5 HCAPLUS

CN 1H-Imidazolium, 1-[3-[(1-(4-aminophenyl)-3-pyrrolidinyl)oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



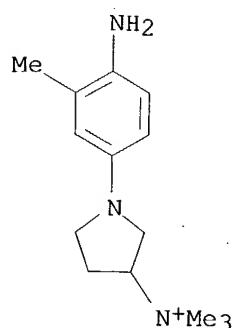
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-15-7 HCPLUS

CN 1H-Imidazolium, 1-[3-[(1-[4-amino-3,5-bis(trimethylsilyl)ethyl]phenyl)-3-pyrrolidinyl]oxy]propyl-, chloride (9CI) (CA INDEX NAME)



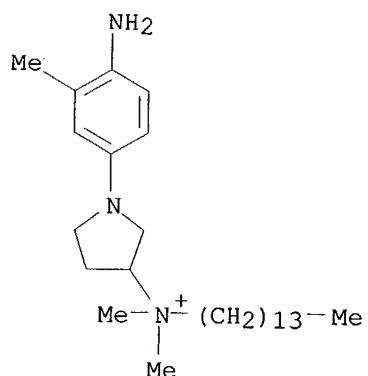
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-16-8 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



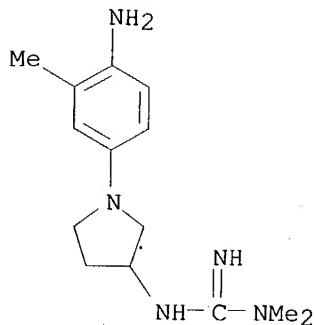
● Cl<sup>-</sup>

RN 701975-17-9 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-tetradecylchloride (9CI) (CA INDEX NAME)



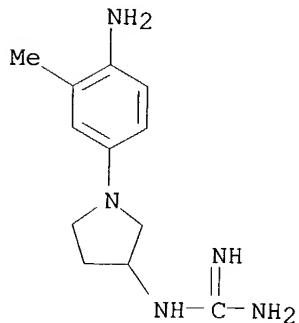
● Cl<sup>-</sup>

RN 701975-18-0 HCAPLUS  
CN Guanidine, N'-(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)-N,N-dimethyl-, monohydrochloride (9CI) (CA INDEX NAME)



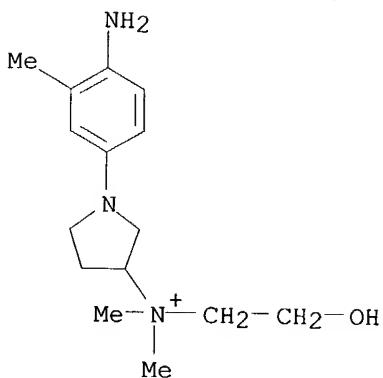
● HCl

RN 701975-19-1 HCPLUS  
CN Guanidine, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

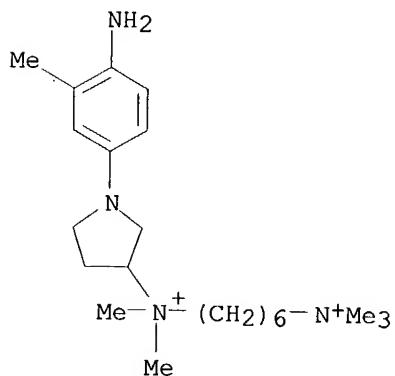
RN 701975-20-4 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



●  $\text{Cl}^-$

RN 701975-21-5 HCPLUS

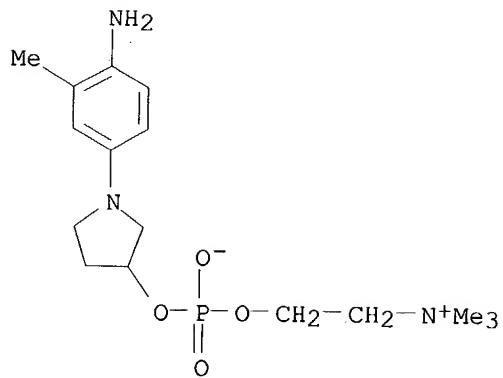
CN 1,6-Hexanediaminium, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-N,N,N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)



●2  $\text{Cl}^-$

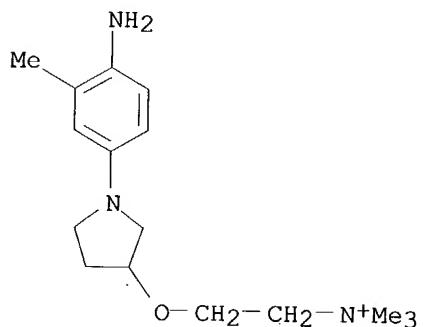
RN 701975-22-6 HCPLUS

CN Ethanaminium, 2-[[[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy]hydroxyphosphoryl]oxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)



RN 701975-23-7 HCAPLUS

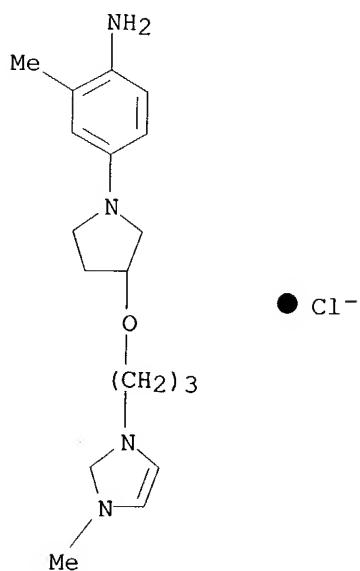
CN Ethanaminium, 2-[(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)oxy]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-25-9 HCAPLUS

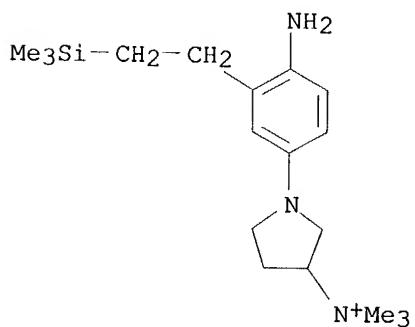
CN 1H-Imidazolium, 1-[3-[(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-27-1 HCPLUS

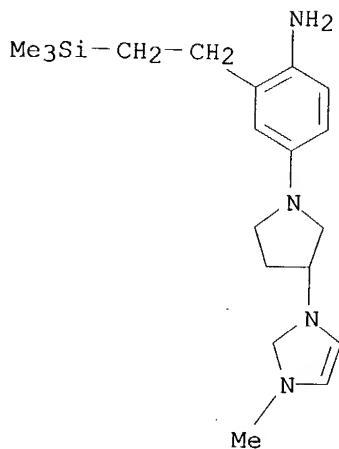
CN 3-Pyrrolidinaminium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl-

RN 701975-28-2 HCPLUS

CN 1H-Imidazolium, 1-[1-[4-amino-3-[(2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

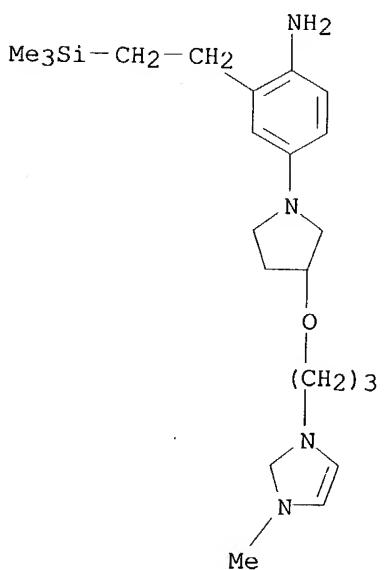


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-29-3 HCAPLUS

CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

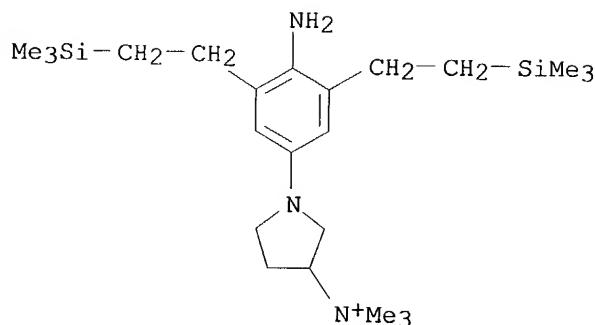


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

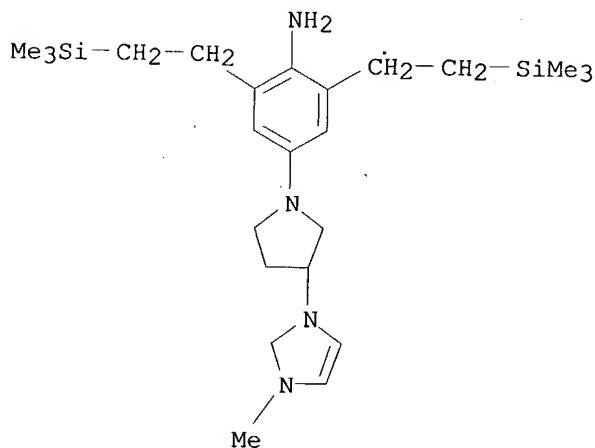
RN 701975-30-6 HCAPLUS

CN 3-Pyrrolidinaminium, 1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



• C1-

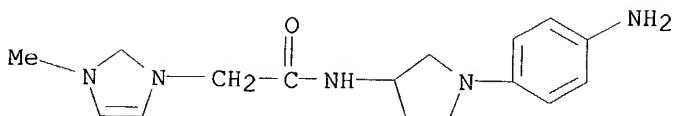
RN 701975-31-7 HCAPLUS  
CN 1H-Imidazolium, 1-[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



• Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-32-8 HCAPLUS

CN 1H-Imidazolium, 1-[2-[(1-(4-aminophenyl)-3-pyrrolidinyl]amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

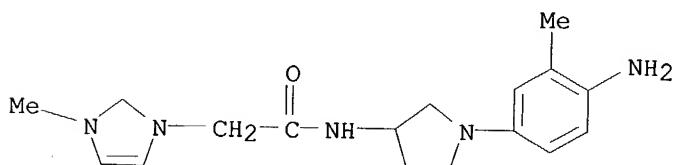


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-33-9 HCPLUS

CN 1H-Imidazolium, 1-[2-[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

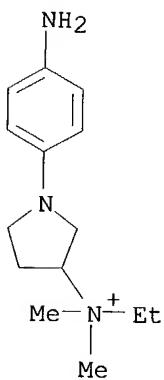


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-34-0 HCPLUS

CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

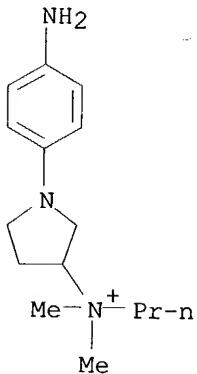
RN 701975-35-1 HCPLUS

CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, methyl chloride

sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 435275-63-1  
CMF C15 H26 N3



CM 2

CRN 21228-90-0  
CMF C H3 O4 S

$$\text{Me}-\text{O}-\text{SO}_3^-$$

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L31 ANSWER 5 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2004:482169 HCAPLUS  
 DN 141:42541  
 TI Hair dyeing compositions comprising a tertiary p-phenylenediamine with a  
     pyrrolidine ring and a benzomorpholine coupler  
 IN Cottard, Francois; Rondeau, Christine  
 PA L'oreal, Fr.  
 SO Eur. Pat. Appl., 53 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA French  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1428514	A1	20040616	EP 2003-293139	20031212
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	FR 2848441	A1	20040618	FR 2002-15774	20021213
	US 2004205903	A1	20041021	US 2003-735288	20031212
PRAI	FR 2002-15774	A	20021213		
	US 2003-450331P	P	20030228		
AB	Hair dyeing compns.	comprise a tertiary p-phenylenediamine with a			

pyrrolidine ring and a benzomorpholine coupler. Thus, a composition contained oleyl alc. 6, oleic acid 3, polyglyceryl oleyl ether 12, diethylaminopropyl laurylaminosuccinamate sodium salt 3, ethoxylated oleylamine 7, ethoxylated alkyl ether monoethanolamide 10, ammonium acetate 20, propylene glycol 20, reducing agents 0.915, sequestrants 1, p-aminophenol 0.2, [1-(4-aminophenyl)pyrrolidin-3-yl]trimethylammonium chloride 0.3, N,N-(2-Hydroxyethyl)-p-phenylenediamine sulfate 0.3, 6-hydroxybenzomorpholine 0.45, perfume qs, ammonia 10.2, and water qs to 100 g.

- IC ICM A61K007-13  
CC 62-3 (Essential Oils and Cosmetics)  
ST hair dye phenylenediamine pyrrolidine benzomorpholine coupler  
IT Phenols, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(amino; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)  
IT Surfactants  
(amphoteric; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)  
IT Surfactants  
(anionic; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)  
IT Polyelectrolytes  
Surfactants  
(cationic; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)  
IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(diamines, aromatic; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)  
IT Dyes  
(direct; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)  
IT Hair preparations  
(dyes, oxidative; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)  
IT Hair preparations  
(dyes; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)  
IT Human  
Oxidizing agents  
Surfactants  
Thickening agents  
(hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)  
IT Bromates  
Ethers, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)  
IT Surfactants  
(nonionic; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)  
IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(peroxy; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)  
IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

(phenolic; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)

IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(salts, peroxy; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)

IT Surfactants  
(zwitterionic; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)

IT 56-81-5, Glycerol, biological studies 57-55-6, Propylene glycol, biological studies 64-17-5, Ethanol, biological studies 90-15-3, 1-Naphthol 95-55-6D, o-Aminophenol, derivs. 95-88-5, 4-Chlororesorcinol 106-50-3D, p-Phenylenediamine, derivs. 108-45-2, 1,3-Diaminobenzene, biological studies 108-45-2D, m-Phenylenediamine, derivs. 108-46-3, Resorcinol, biological studies 108-46-3D, Resorcinol, derivs. 123-30-8, p-Aminophenol 123-30-8D, p-Aminophenol, derivs. 124-43-6 150-75-4, N-Methyl-4-aminophenol 399-95-1, 4-Amino-3-fluorophenol 399-96-2, 4-Amino-2-fluorophenol 533-31-3, Sesamol 591-27-5D, m-Aminophenol, derivs. 608-25-3, 2-Methylresorcinol 1125-35-5 1125-89-9 2380-84-9, 1H-Indol-7-ol 2380-86-1, 6-Hydroxyindole 2380-94-1, 4-Hydroxyindole 2835-96-3, 4-Amino-2-methylphenol 2835-99-6, 4-Amino-3-methylphenol 7469-77-4, 2-Methyl-1-naphthol 7556-37-8, 4-Hydroxy-N-methylindole 7575-35-1 7722-84-1, Hydrogen peroxide, biological studies 9035-73-8, Oxidase 15050-03-0 16867-03-1, 2-Amino-3-hydroxypyridine 24370-70-5 24370-78-3 25711-72-2, 3-Ureido aniline 26011-57-4 26021-57-8 26438-50-6 26455-21-0 29785-47-5, 4-Amino-2-methoxymethylphenol 36729-23-4 40047-23-2 54584-22-4 54584-23-5 58262-44-5 70643-19-5 79352-72-0, 4-Amino-2-aminomethylphenol 81329-90-0 81892-72-0 85679-78-3, 3,5-Diamino-2,6-dimethoxypyridine 104333-09-7, 4-Amino-2-hydroxymethylphenol 104535-37-7 110952-46-0 112332-93-1 112332-97-5 130570-60-4 130570-63-7 149330-25-6 168202-61-7, 4-Amino-3-hydroxymethylphenol 402941-00-8 **435275-61-9**  
**435275-62-0** **435275-65-3** **435275-66-4**  
**435275-67-5** **435275-68-6** **435275-69-7**  
**435275-70-0** **435275-72-2** **435275-73-3**  
**435275-74-4** **435275-82-4** 575474-01-0  
**607355-12-4** **607355-13-5** **607355-16-8**  
**607355-17-9** **607355-18-0** **607355-19-1**  
**607355-20-4** **607355-21-5** **701975-01-1** **701975-04-4**  
**701975-07-7** **701975-08-8** **701975-09-9**  
**701975-10-2** **701975-11-3** **701975-12-4**  
**701975-13-5** **701975-14-6** **701975-15-7**  
**701975-16-8** **701975-17-9** **701975-18-0**  
**701975-19-1** **701975-20-4** **701975-21-5**  
**701975-22-6** **701975-23-7** **701975-24-8**  
**701975-25-9** **701975-26-0** **701975-27-1**  
**701975-28-2** **701975-29-3** **701975-30-6**  
**701975-31-7** **701975-32-8** **701975-33-9**  
**701975-34-0** **701975-35-1** **704879-73-2** **704879-74-3**  
**704879-75-4** **704879-76-5**  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and benzomorpholine coupler)

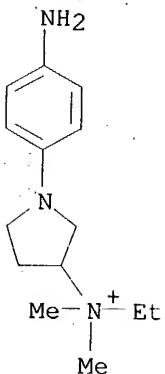
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**435275-66-4** **435275-67-5** **435275-68-6**  
**435275-69-7** **435275-70-0** **435275-72-2**  
**435275-73-3** **435275-74-4** **435275-82-4**  
**607355-12-4** **607355-13-5** **607355-16-8**

607355-17-9 607355-18-0 607355-19-1  
701975-01-1 701975-04-4 701975-07-7  
701975-08-8 701975-09-9 701975-10-2  
701975-11-3 701975-13-5 701975-15-7  
701975-16-8 701975-17-9 701975-18-0  
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701975-22-6 701975-23-7 701975-25-9  
701975-27-1 701975-28-2 701975-29-3  
701975-30-6 701975-31-7 701975-32-8  
701975-33-9 701975-34-0 701975-35-1

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising cationic phenylenediamine  
with pyrrolidine ring and benzomorpholine coupler)

RN 435275-61-9 HCPLUS

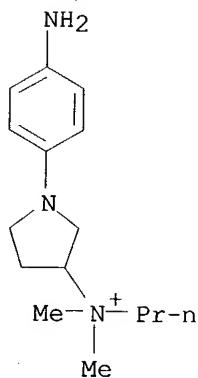
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I-

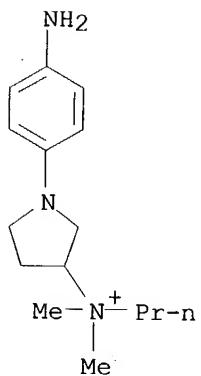
RN 435275-62-0 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, iodide  
(9CI) (CA INDEX NAME)



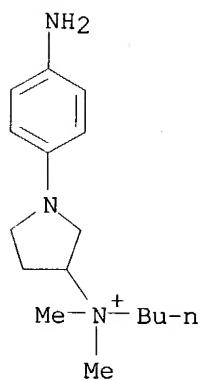
● I<sup>-</sup>

RN 435275-65-3 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, bromide  
(9CI) (CA INDEX NAME)



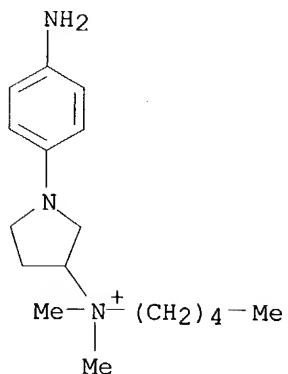
● Br<sup>-</sup>

RN 435275-66-4 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-butyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



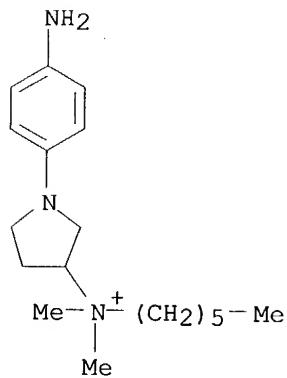
● I<sup>-</sup>

RN 435275-67-5 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-pentyl-, iodide  
(9CI) (CA INDEX NAME)



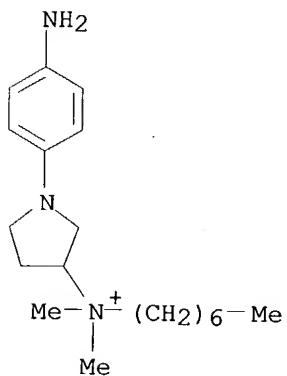
● I<sup>-</sup>

RN 435275-68-6 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



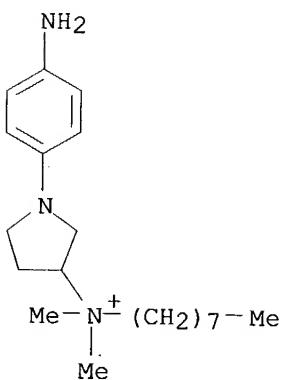
● I<sup>-</sup>

RN 435275-69-7 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-heptyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



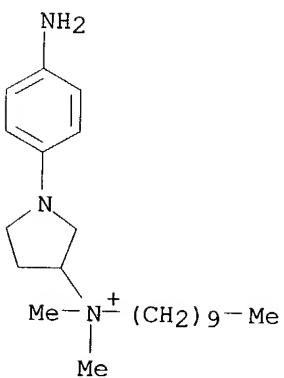
● I<sup>-</sup>

RN 435275-70-0 HCPLUS  
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(CA INDEX NAME)



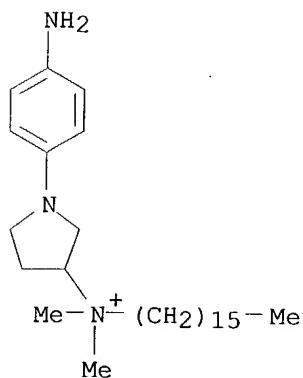
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RN 435275-72-2 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-decyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



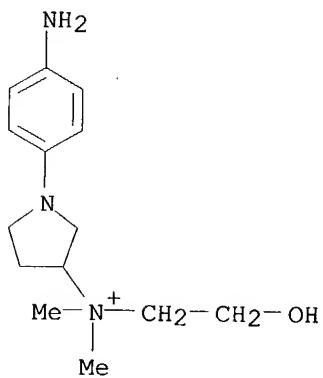
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RN 435275-73-3 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexadecyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



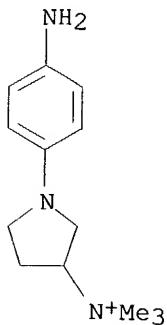
● I<sup>-</sup>

RN 435275-74-4 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, iodide (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

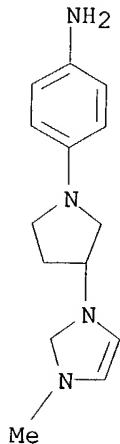
RN 435275-82-4 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-12-4 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-methyl-, chloride  
(9CI) (CA INDEX NAME)

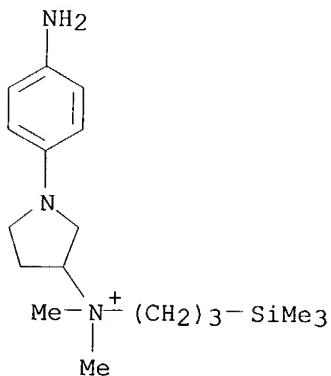


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 607355-13-5 HCPLUS

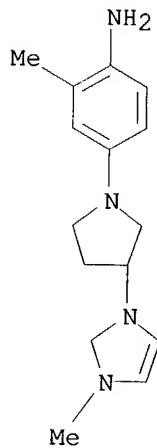
CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-16-8 HCAPLUS

CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

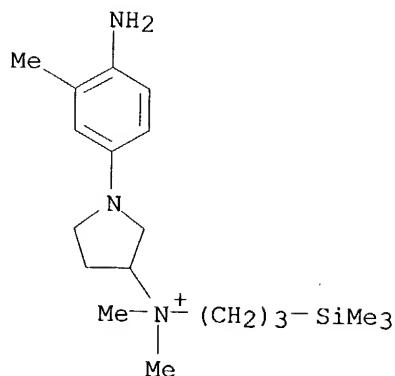


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

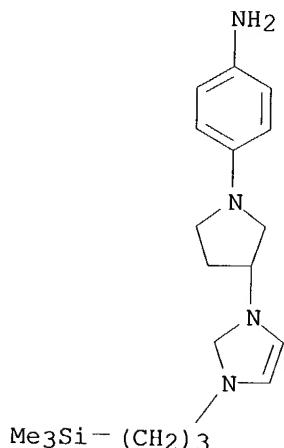
RN 607355-17-9 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



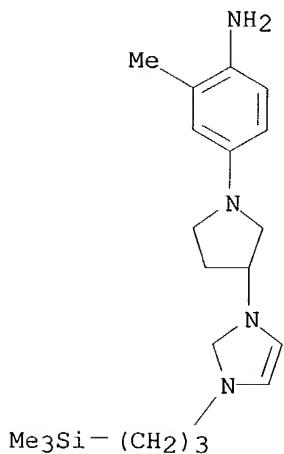
● Cl<sup>-</sup>

RN 607355-18-0 HCPLUS  
CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 607355-19-1 HCPLUS  
CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)

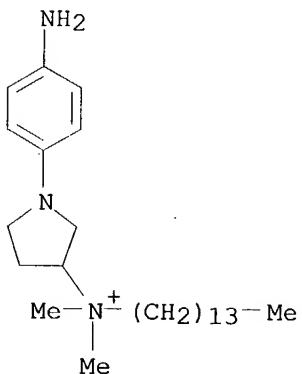


●  $\bullet \text{Cl}^-$

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-01-1 HCPLUS

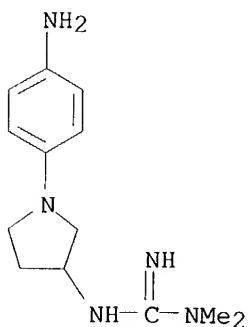
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-tetradecyl-, bromide  
(9CI) (CA INDEX NAME)



●  $\bullet \text{Br}^-$

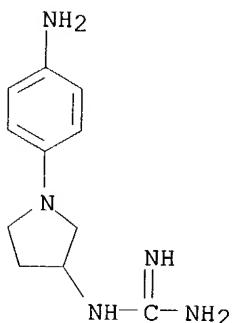
RN 701975-04-4 HCPLUS

CN Guanidine, N'-(1-(4-aminophenyl)-3-pyrrolidinyl)-N,N-dimethyl-,  
monohydrochloride (9CI) (CA INDEX NAME)



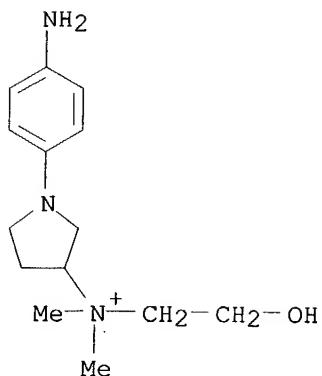
● HCl

RN 701975-07-7 HCPLUS  
CN Guanidine, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-, monohydrochloride (9CI)  
(CA INDEX NAME)



● HCl

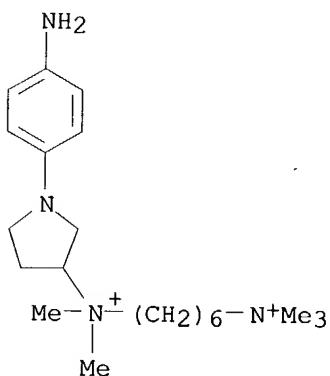
RN 701975-08-8 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-09-9 HCAPLUS

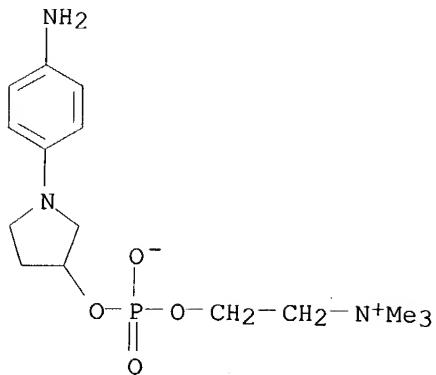
CN 1,6-Hexanediaminium, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N,N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)



●2 Cl<sup>-</sup>

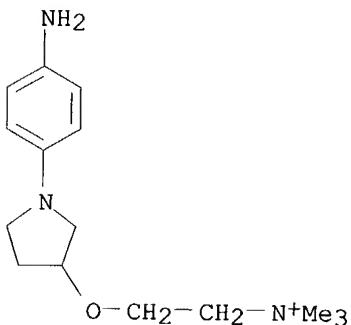
RN 701975-10-2 HCAPLUS

CN Ethanaminium, 2-[[[1-(4-aminophenyl)-3-pyrrolidinyl]oxy]hydroxyphosphinyl]oxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)



RN 701975-11-3 HCAPLUS

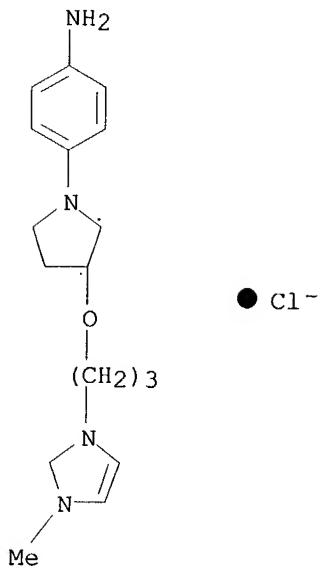
CN Ethanaminium, 2-[[1-(4-aminophenyl)-3-pyrrolidinyl]oxy]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-13-5 HCAPLUS

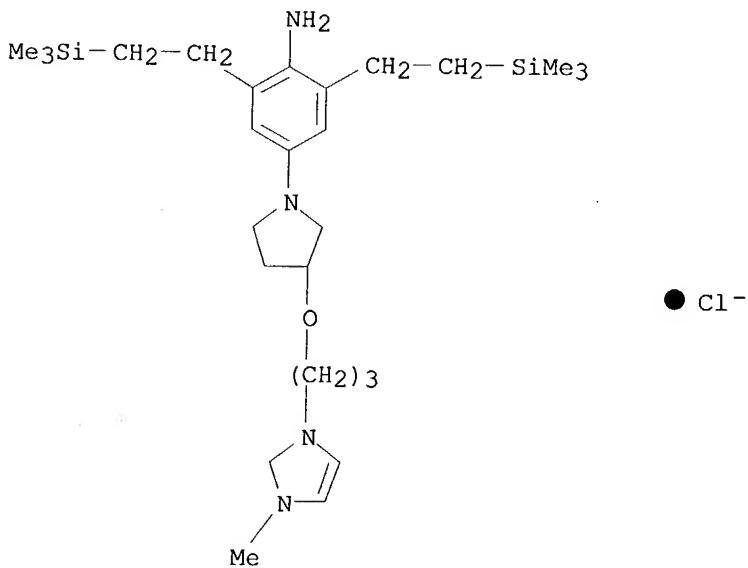
CN 1H-Imidazolium, 1-[3-[[1-(4-aminophenyl)-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-15-7 HCPLUS

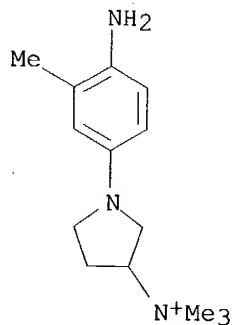
CN 1H-Imidazolium, 1-[3-[(1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl)oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

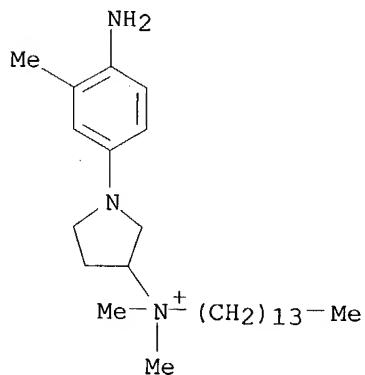
RN 701975-16-8 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



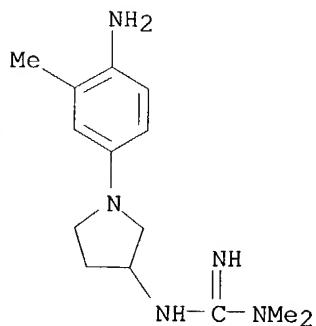
● Cl<sup>-</sup>

RN 701975-17-9 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-tetradecyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

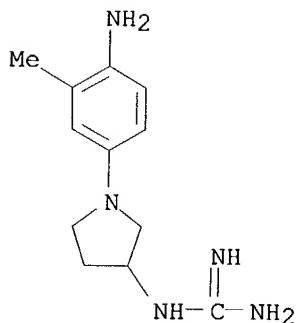
RN 701975-18-0 HCAPLUS  
CN Guanidine, N'-(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)-N,N-dimethyl-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 701975-19-1 HCPLUS

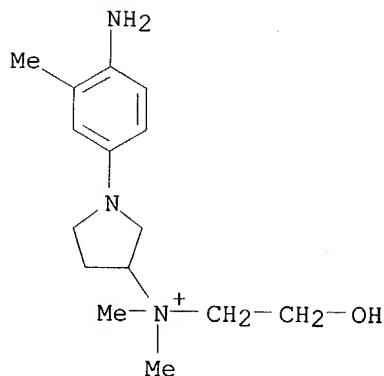
CN Guanidine, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

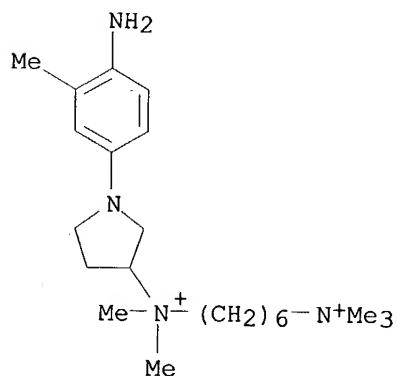
RN 701975-20-4 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



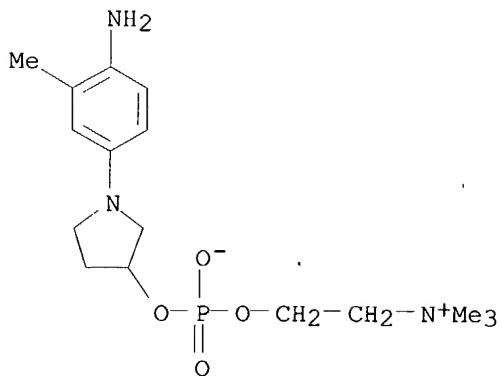
● Cl<sup>-</sup>

RN 701975-21-5 HCPLUS  
CN 1,6-Hexanediaminium, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-N,N,N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)



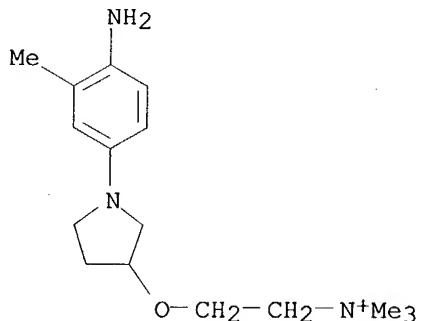
●2 Cl<sup>-</sup>

RN 701975-22-6 HCPLUS  
CN Ethanaminium, 2-[[[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy]hydroxyphosphinyl]oxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)



RN 701975-23-7 HCPLUS

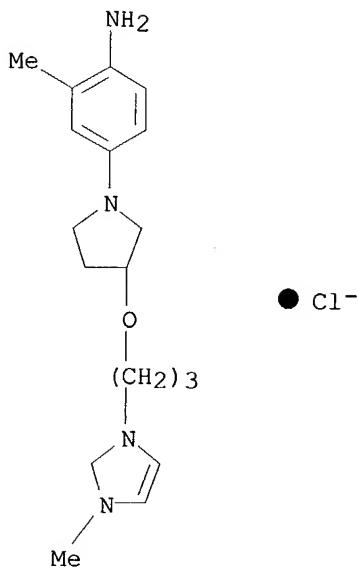
CN Ethanaminium, 2-[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-25-9 HCPLUS

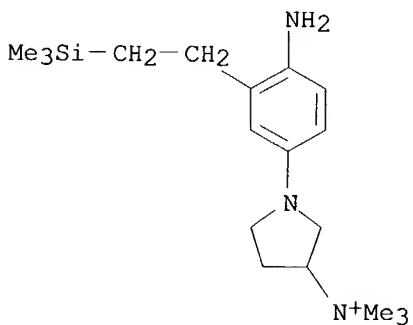
CN 1H-Imidazolium, 1-[3-[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-27-1 HCPLUS

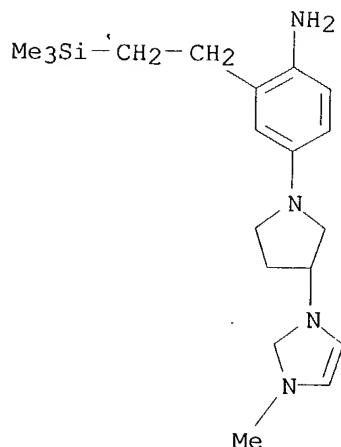
CN 3-Pyrrolidinaminium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-28-2 HCPLUS

CN 1H-Imidazolium, 1-[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

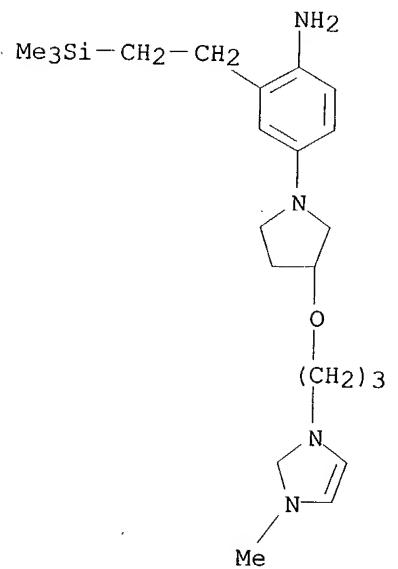


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-29-3 HCPLUS

CN 1H-Imidazolium, 1-[3-[(1-[4-amino-3-[(2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl)oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

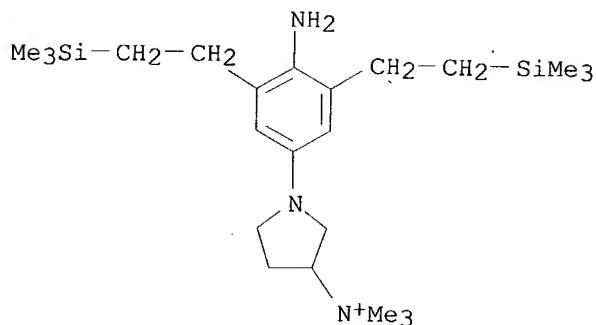


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

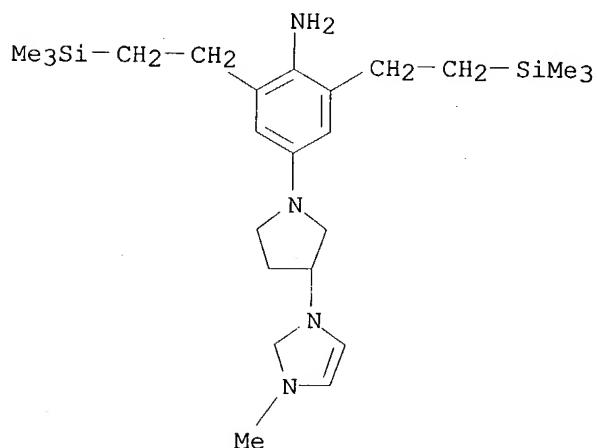
RN 701975-30-6 HCPLUS

CN 3-Pyrrolidinaminium, 1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



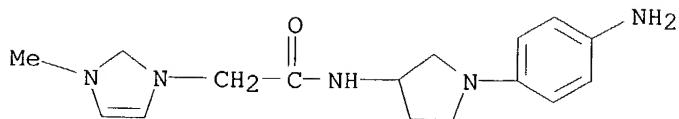
● Cl<sup>-</sup>

RN 701975-31-7 HCAPLUS  
CN 1H-Imidazolium, 1-[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-32-8 HCAPLUS  
CN 1H-Imidazolium, 1-[2-[[1-(4-aminophenyl)-3-pyrrolidinyl]amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

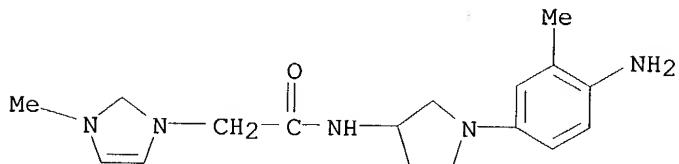


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-33-9 HCPLUS

CN 1H-Imidazolium, 1-[2-[(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

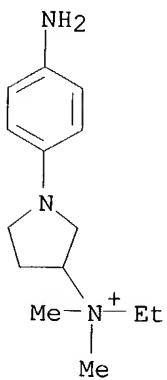


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-34-0 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-35-1 HCPLUS

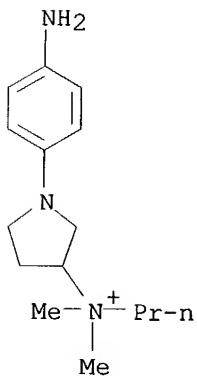
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, methyl chloride

sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 435275-63-1

CMF C15 H26 N3



CM 2

CRN 21228-90-0

CMF C H3 O4 S

Me-O-SO<sub>3</sub><sup>-</sup>

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L31 ANSWER 6 OF 19 HCPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:482168 HCPLUS  
DN 141:42540  
TI Hair dyeing compositions comprising a tertiary p-phenylenediamine with a pyrrolidine ring and a opacifying or pearlescent agent  
IN Cotteret, Jean; Lagrange, Alain  
PA L'oreal, Fr.  
SO Eur. Pat. Appl., 50 pp.  
CODEN: EPXXDW  
DT Patent  
LA French  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO:	DATE
PI	EP 1428513	A1	20040616	EP 2003-293138	20031212
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	FR 2848440	A1	20040618	FR 2002-15773	20021213
PRAI	FR 2002-15773	A	20021213		
OS	MARPAT 141:42540				
AB	Hair dyeing compns. comprise a tertiary p-phenylenediamine with a pyrrolidine ring and a opacifying or pearlescent agent. Thus, a composition				

contained Nafol 20-22 3, Marlipal-2022/300 1, ethoxylated stearyl alc. 6.25, oleic acid 2.6, carbopol-980 0.6, Aculyn-44 4, Flonac FS20C 0.25, coco fatty acid monoisopropanolamide 3, cationic polymer 4, propylene glycol 6, sodium metasulfite 0.71, EDTA 0.2, tert-butylhydroquinone 0.3, 3-[1-(4-aminophenyl)pyrrolidin-3-yl]-1-methyl-3H-1-imidazolium chloride 0.8, 5-N(β-hydroxyethyamino-2-methylphenol) 0.4, monoethanolamine 1, perfume qs, ammonia 11, and water qs to 100 g. The above composition was mixed with 6% H<sub>2</sub>O<sub>2</sub> and applied onto hair.

- IC ICM A61K007-13  
CC 62-3 (Essential Oils and Cosmetics)  
ST hair dye phenylenediamine pyrrolidine opacifying pearlescent agent  
IT Phenols, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(amino; hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and opacifying or pearlescent agents)  
IT Surfactants  
(amphoteric; hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and opacifying or pearlescent agents)  
IT Surfactants  
(anionic; hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and opacifying or pearlescent agents)  
IT Polyelectrolytes  
Surfactants  
(cationic; hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and opacifying or pearlescent agents)  
IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(diamines, aromatic; hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and opacifying or pearlescent agents)  
IT Dyes  
(direct; hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and opacifying or pearlescent agents)  
IT Hair preparations  
(dyes, oxidative; hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and opacifying or pearlescent agents)  
IT Hair preparations  
(dyes; hair dyeing compns. comprising phenylenediamine with pyrrolidine  
ring and opacifying or pearlescent agents)  
IT Opacifiers  
Oxidizing agents  
Particle size distribution  
Pearly materials  
Surfactants  
Thickening agents  
(hair dyeing compns. comprising phenylenediamine with pyrrolidine ring  
and opacifying or pearlescent agents)  
IT Bromates  
Ethers, biological studies  
Fluoropolymers, biological studies  
Polyesters, biological studies  
Polysiloxanes, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising phenylenediamine with pyrrolidine ring  
and opacifying or pearlescent agents)  
IT Surfactants  
(nonionic; hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and opacifying or pearlescent agents)  
IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

(peroxy; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and opacifying or pearlescent agents)

IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(phenolic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and opacifying or pearlescent agents)

IT Alcohols, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(polyhydric; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and opacifying or pearlescent agents)

IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(salts, peroxy; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and opacifying or pearlescent agents)

IT Surfactants  
(zwitterionic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and opacifying or pearlescent agents)

IT 56-81-5, Glycerol, biological studies 57-55-6, Propylene glycol, biological studies 64-17-5, Ethanol, biological studies 90-15-3, α-Naphthol 95-55-6D, o-Aminophenol, derivs. 95-88-5, 4-ChloroResorcinol 106-50-3D, p-Phenylenediamine, derivs. 108-45-2, 1,3-Diaminobenzene, biological studies 108-45-2D, m-Phenylenediamine, derivs. 108-46-3, Resorcinol, biological studies 108-46-3D, Resorcinol, derivs. 123-30-8D, p-Aminophenol, derivs. 124-43-6 533-31-3, Sesamol 591-27-5D, m-Aminophenol, derivs. 608-25-3, 2-MethylResorcinol 2380-86-1, 6-Hydroxyindole 2380-94-1, 4-Hydroxyindole 7469-77-4, 2-Methyl-1-naphthol 7556-37-8, 4-Hydroxy-N-methylindole 7631-86-9, Silica, biological studies 7722-84-1, Hydrogen peroxide, biological studies 9002-84-0, Teflon 9004-73-3, Poly[oxy(methylsilylene)] 9012-76-4, Chitosan 9016-00-6, Polydimethyl siloxane 9035-73-8, Oxidase 13463-67-7, Titanium oxide, biological studies 16867-03-1, 2-Amino-3-hydroxypyridine 25711-72-2, 3-Ureido aniline 26021-57-8, 6-Hydroxybenzomorpholine 26455-21-0 31900-57-9, Polydimethyl siloxane 49718-23-2, Methyl hydrogen silanediol homopolymer 70643-19-5 81329-90-0 81892-72-0 85679-78-3, 3,5-DiAmino-2,6-dimethoxypyridine 136723-98-3 139489-46-6 149330-25-6 402941-00-8 435275-61-9 435275-62-0  
435275-65-3 435275-66-4 435275-67-5  
435275-68-6 435275-69-7 435275-70-0  
435275-72-2 435275-73-3 435275-74-4  
435275-82-4 607355-12-4 607355-13-5  
607355-16-8 607355-17-9 607355-18-0  
607355-19-1 607355-20-4 607355-21-5 701975-01-1  
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701975-22-6 701975-23-7 701975-24-8  
701975-25-9 701975-26-0 701975-27-1  
701975-28-2 701975-29-3 701975-30-6  
701975-31-7 701975-32-8 701975-33-9  
701975-34-0 701975-35-1  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and opacifying or pearlescent agents)

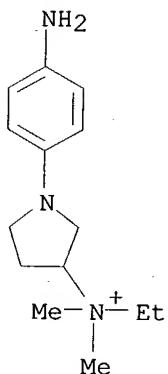
IT 435275-61-9 435275-62-0 435275-65-3  
435275-66-4 435275-67-5 435275-68-6  
435275-69-7 435275-70-0 435275-72-2

435275-73-3 435275-74-4 435275-82-4  
607355-12-4 607355-13-5 607355-16-8  
607355-17-9 607355-18-0 607355-19-1  
701975-01-1 701975-04-4 701975-07-7  
701975-08-8 701975-09-9 701975-10-2  
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701975-30-6 701975-31-7 701975-32-8  
701975-33-9 701975-34-0 701975-35-1

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and opacifying or pearlescent agents)

RN 435275-61-9 HCPLUS

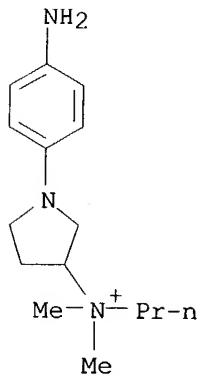
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I-

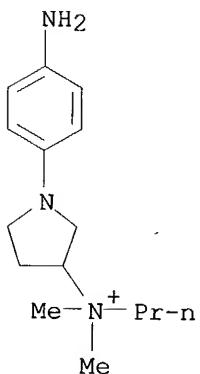
RN 435275-62-0 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, iodide  
(9CI) (CA INDEX NAME)



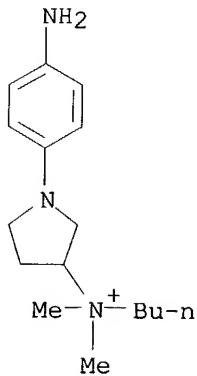
● I<sup>-</sup>

RN 435275-65-3 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, bromide  
(9CI) (CA INDEX NAME)



● Br<sup>-</sup>

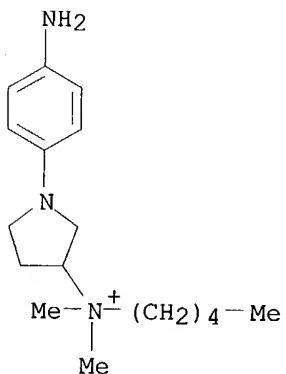
RN 435275-66-4 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-butyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-67-5 HCPLUS

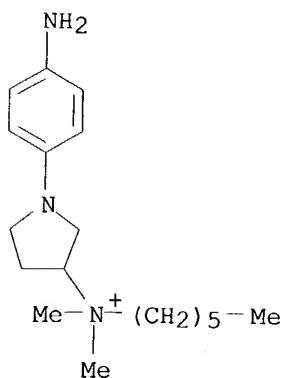
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-pentyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-68-6 HCPLUS

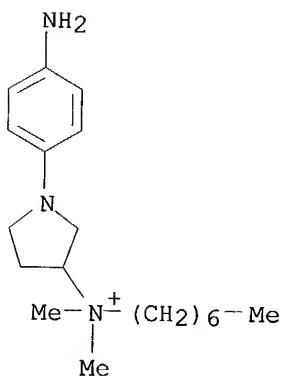
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-69-7 HCAPLUS

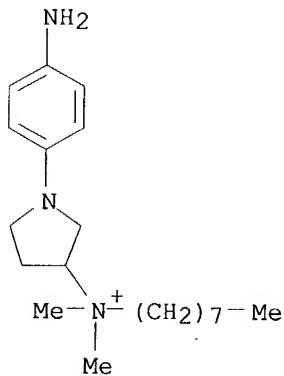
CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N-heptyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-70-0 HCAPLUS

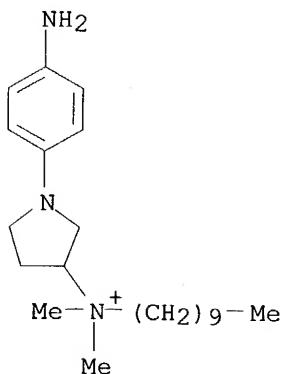
CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N,N-dimethyl-N-octyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-72-2 HCPLUS

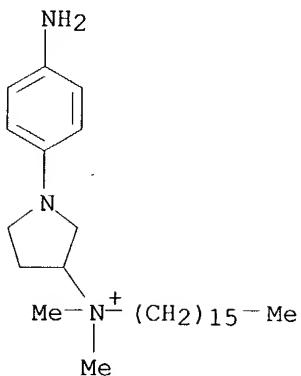
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-decyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-73-3 HCPLUS

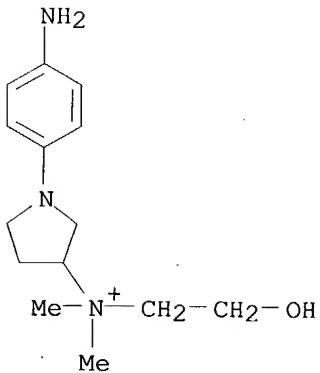
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexadecyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-74-4 HCPLUS

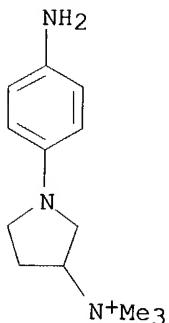
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

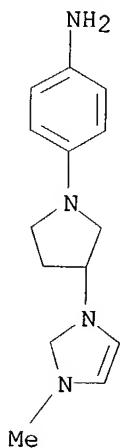
RN 435275-82-4 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



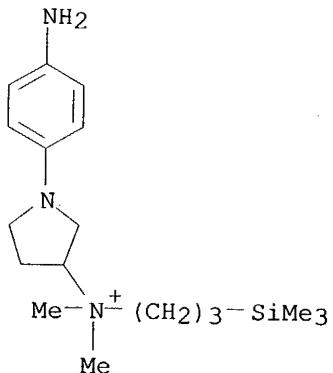
● Cl<sup>-</sup>

RN 607355-12-4 HCPLUS  
CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-methyl-, chloride  
(9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

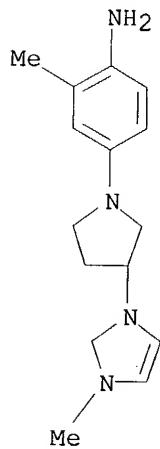
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 607355-13-5 HCPLUS  
CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-16-8 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

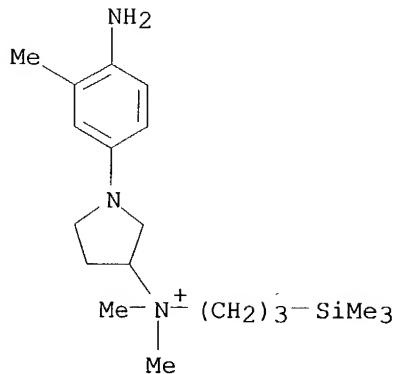


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

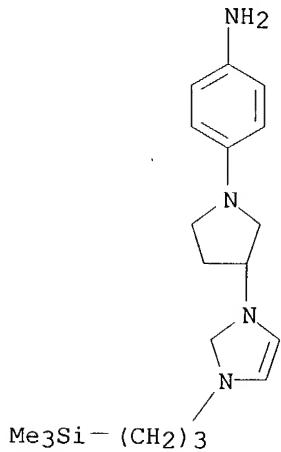
RN 607355-17-9 HCPLUS

CN 3-Pyrrolidinamininium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



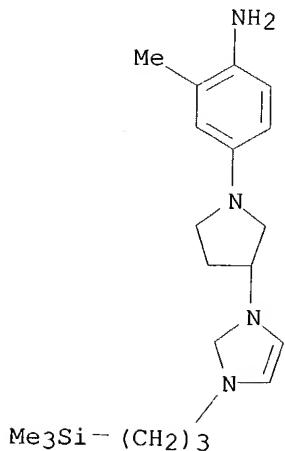
● Cl<sup>-</sup>

RN 607355-18-0 HCPLUS  
CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 607355-19-1 HCPLUS  
CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)

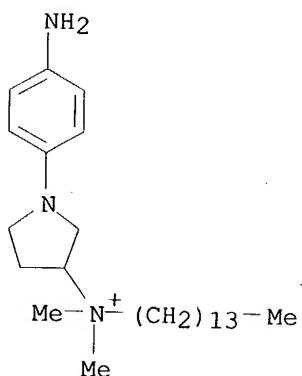


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-01-1 HCPLUS

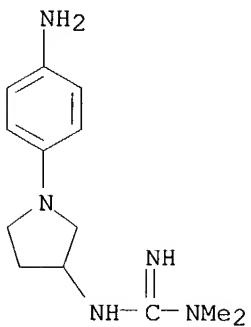
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-tetradecyl-, bromide  
(9CI) (CA INDEX NAME)



● Br<sup>-</sup>

RN 701975-04-4 HCPLUS

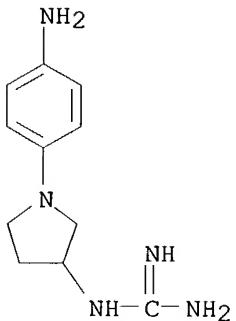
CN Guanidine, N'-[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N-dimethyl-,  
monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 701975-07-7 HCPLUS

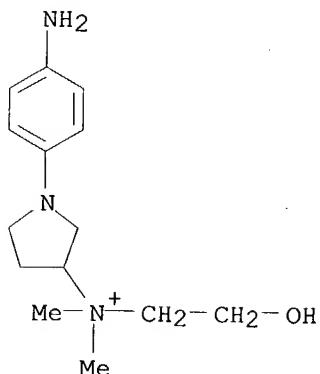
CN Guanidine, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-, monohydrochloride (9CI)  
(CA INDEX NAME)



● HCl

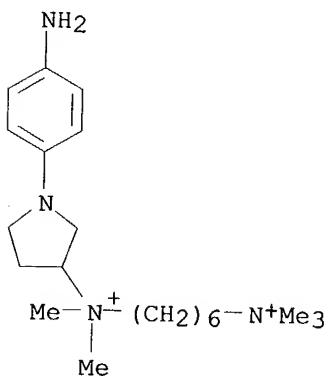
RN 701975-08-8 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-,  
chloride (9CI) (CA INDEX NAME)



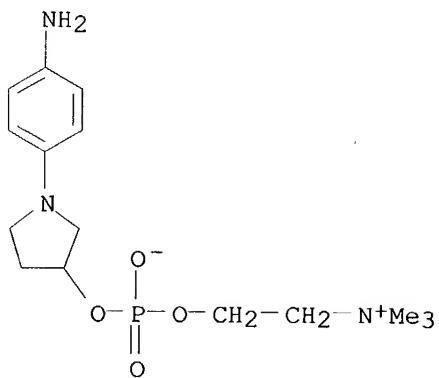
● Cl<sup>-</sup>

RN 701975-09-9 HCAPLUS  
CN 1,6-Hexanediaminium, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N,N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)



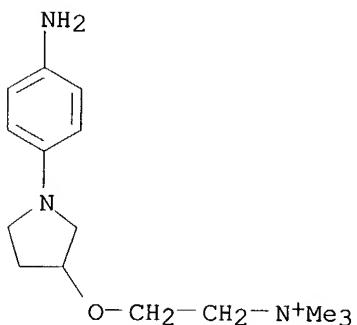
●2 Cl<sup>-</sup>

RN 701975-10-2 HCAPLUS  
CN Ethanaminium, 2-[[[[1-(4-aminophenyl)-3-pyrrolidinyl]oxy]hydroxyphosphinyl]oxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)



RN 701975-11-3 HCAPLUS

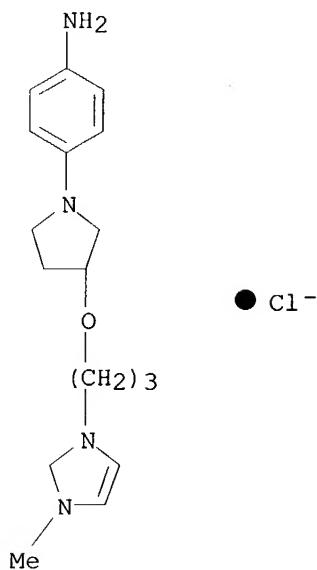
CN Ethanaminium, 2-[(1-(4-aminophenyl)-3-pyrrolidinyl)oxy]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-13-5 HCAPLUS

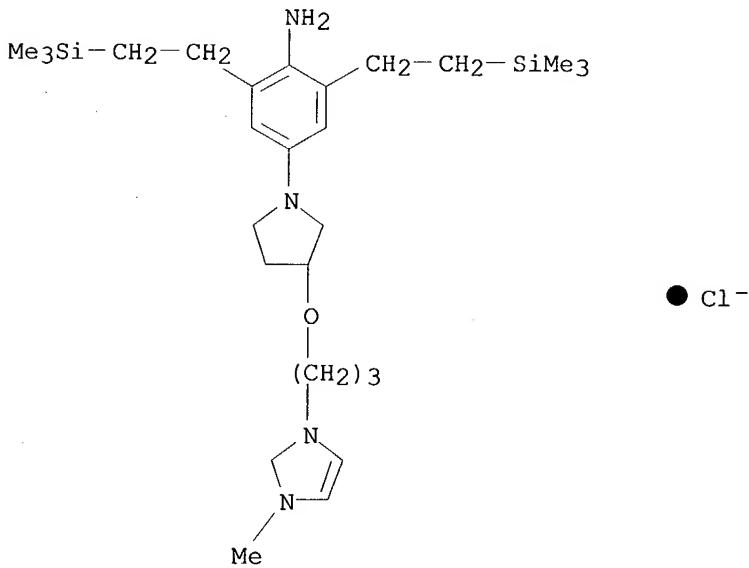
CN 1H-Imidazolium, 1-[3-[(1-(4-aminophenyl)-3-pyrrolidinyl)oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-15-7 HCPLUS

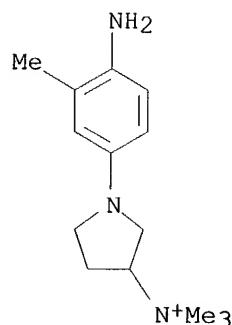
CN 1H-Imidazolium, 1-[3-[(1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl)oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

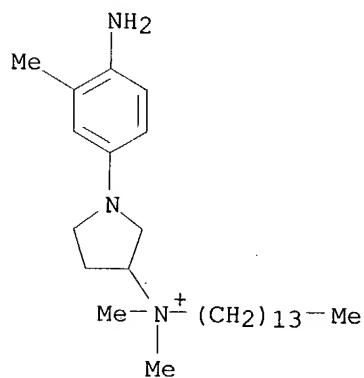
RN 701975-16-8 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



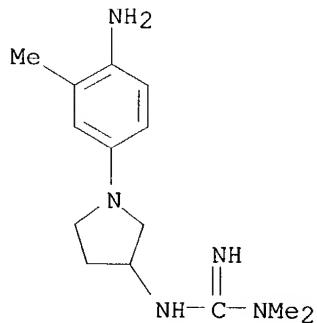
● Cl<sup>-</sup>

RN 701975-17-9 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-tetradecyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

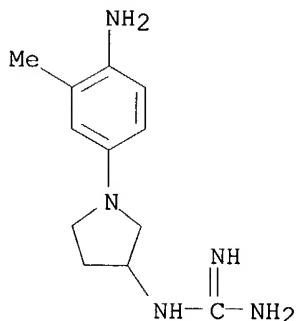
RN 701975-18-0 HCPLUS  
CN Guanidine, N'-(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)-N,N-dimethyl-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 701975-19-1 HCPLUS

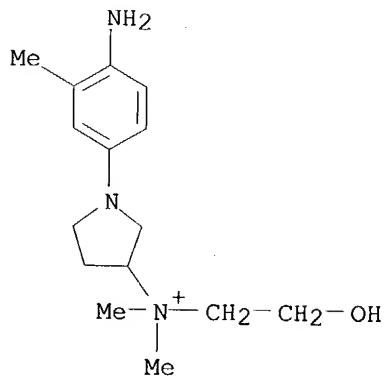
CN Guanidine, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 701975-20-4 HCPLUS

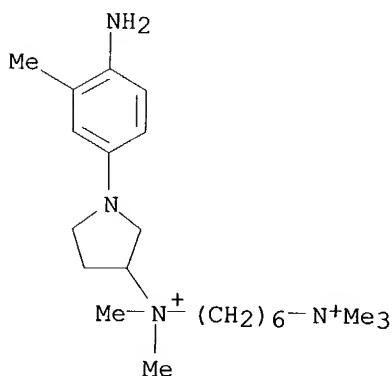
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-21-5 HCPLUS

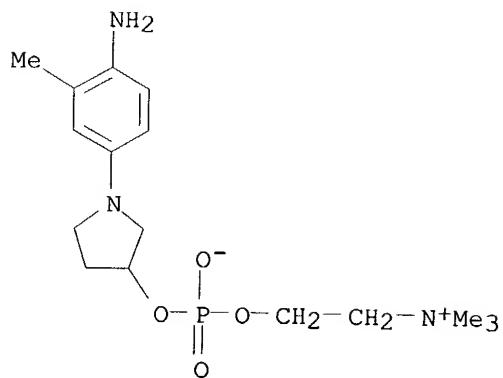
CN 1,6-Hexanediaminium, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-N,N,N',N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)



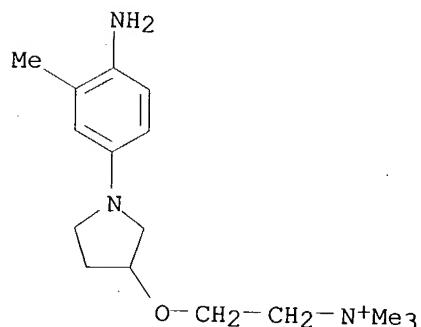
●2 Cl<sup>-</sup>

RN 701975-22-6 HCPLUS

CN Ethanaminium, 2-[[[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy]hydroxyphosphinyl]oxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)

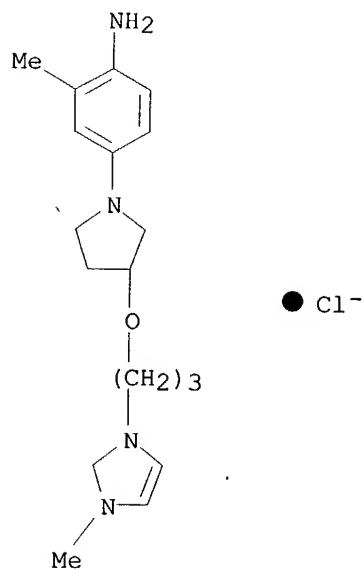


RN 701975-23-7 HCAPLUS  
CN Ethanaminium, 2-[{[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy}-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



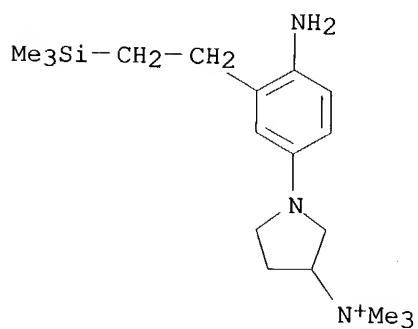
●  $\text{Cl}^-$

RN 701975-25-9 HCAPLUS  
CN 1H-Imidazolium, 1-[3-{[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy}propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-27-1 HCPLUS

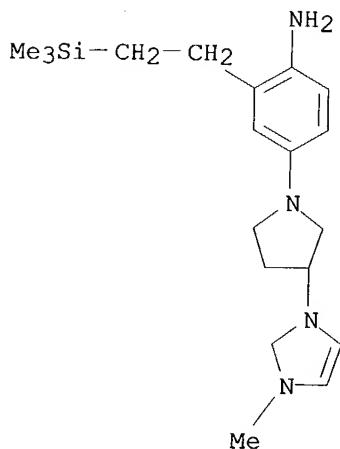
CN 3-Pyrrolidinaminium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl-

RN 701975-28-2 HCPLUS

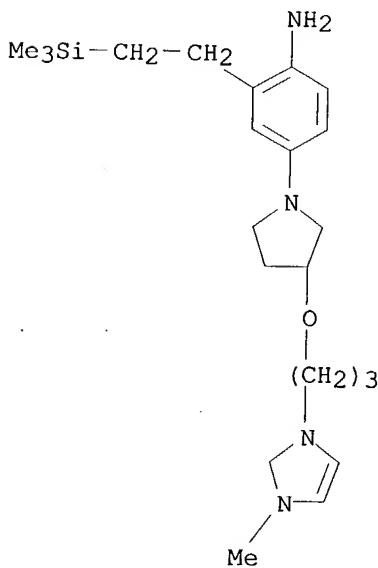
CN 1H-Imidazolium, 1-[1-[4-amino-3-[(2R,3S)-3-methyl-2-(trimethylsilyl)propyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-29-3 HCPLUS

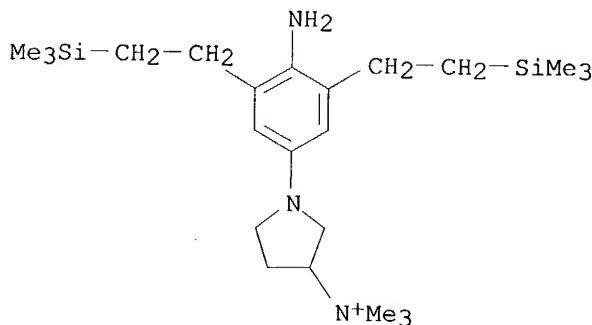
CN 1H-Imidazolium, 1-[3-[(1-[4-amino-3-[(2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl)oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

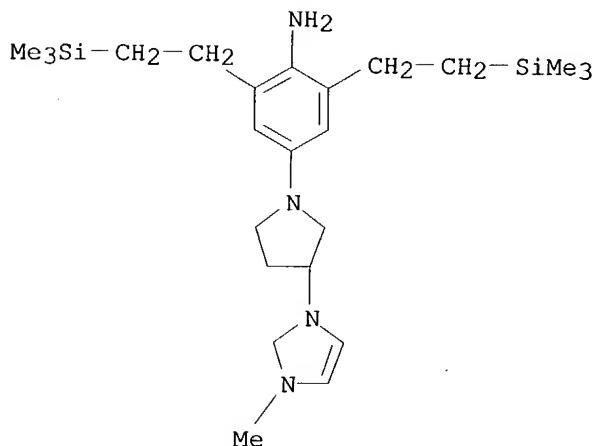
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-30-6 HCPLUS

CN 3-Pyrrolidinaminium, 1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



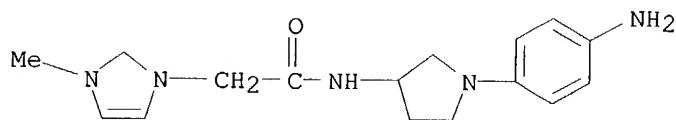
● C1-

RN 701975-31-7 HCAPLUS  
CN 1H-Imidazolium, 1-[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● C1-

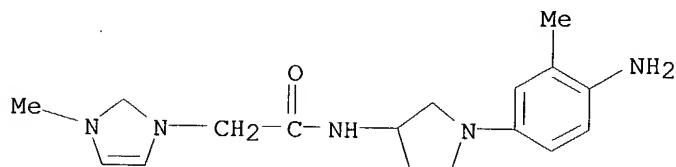
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-32-8 HCAPLUS  
CN 1H-Imidazolium, 1-[2-[[1-(4-aminophenyl)-3-pyrrolidinyl]amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-33-9 HCPLUS

CN 1H-Imidazolium, 1-[2-[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

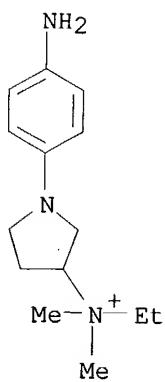


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-34-0 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

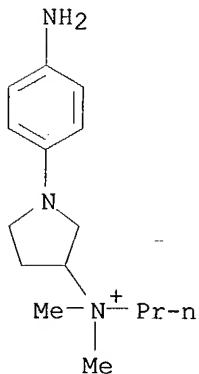
RN 701975-35-1 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, methyl chloride

sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 435275-63-1  
CMF C15 H26 N3



CM 2

CRN 21228-90-0  
CMF C H3 O4 S

Me-O-SO<sub>3</sub><sup>-</sup>

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L31 ANSWER 7 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:482167 HCAPLUS  
DN 141:42539  
TI Hair dyeing compositions comprising a tertiary cationic p-phenylenediamine with a pyrrolidine ring and a p-aminophenol  
IN Cotteret, Jean; Lagrange, Alain  
PA L'oreal, Fr.  
SO Eur. Pat. Appl., 51 pp.  
CODEN: EPXXDW  
DT Patent  
LA French  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1428512	A1	20040616	EP 2003-293137	20031212
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	FR 2848436	A1	20040618	FR 2002-15769	20021213
	US 2004216245	A1	20041104	US 2003-735284	20031212
PRAI	FR 2002-15769	A	20021213		
	US 2003-451255P	P	20030304		
OS	MARPAT 141:42539				

AB Hair dyeing compns. comprise a tertiary cationic p-phenylenediamine with a pyrrolidine ring and a p-aminophenol. Thus, a composition contained oleyl alc. 6, oleic acid 3, polyglyceryl oleyl ether 12, diethylaminopropyl laurylaminosuccinate sodium salt 3, ethoxylated oleylamine 7, ethoxylated alkyl ether monoethanolamide 10, ammonium acetate 20, hexylene glycol 20, reducing agents 0.915, sequestrants 1, a p-aminophenol 0.2, [1-(4-aminophenyl)pyrrolidin-3-yl]trimethylammonium chloride 0.8, 2-methyl-5-aminophenol 0.5, perfume qs, ammonia 10.2, and water qs to 100 g. The above composition was mixed with 6% H<sub>2</sub>O<sub>2</sub> and applied onto hair.

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

ST hair dye phenylenediamine pyrrolidine aminophenol

IT Phenols, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(amino; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)

IT Surfactants  
(amphoteric; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)

IT Surfactants  
(anionic; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)

IT Polyelectrolytes

IT Surfactants  
(cationic; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)

IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(diamines, aromatic; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)

IT Dyes  
(direct; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)

IT Hair preparations  
(dyes, oxidative; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)

IT Hair preparations  
(dyes; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)

IT Human

Oxidizing agents

Surfactants

Thickening agents  
(hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)

IT Bromates

Ethers, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)

IT Surfactants  
(nonionic; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)

IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(peroxy; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)

IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

(phenolic; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)

IT Alcohols, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(polyhydric; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)

IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(salts, peroxy; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)

IT Surfactants  
(zwitterionic; hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)

IT 56-81-5, Glycerol, biological studies 57-55-6, Propylene glycol, biological studies 64-17-5, Ethanol, biological studies 90-15-3, 1-Naphthol 95-55-6D, o-Aminophenol, derivs. 95-88-5, 4-ChloroResorcinol 106-50-3D, p-Phenylenediamine, derivs. 108-45-2, 1,3-Diaminobenzene, biological studies 108-45-2D, m-Phenylenediamine, derivs. 108-46-3, Resorcinol, biological studies 108-46-3D, Resorcinol, derivs. 123-30-8D, p-Aminophenol, derivs. 124-43-6 533-31-3, Sesamol 591-27-5D, m-Aminophenol, derivs. 608-25-3, 2-MethylResorcinol 2380-86-1, 6-Hydroxyindole 2380-94-1, 4-Hydroxyindole 3964-52-1, 2-Chloro-4-aminophenol 7469-77-4, 2-Methyl-1-naphthol 7556-37-8 7722-84-1, Hydrogen peroxide, biological studies 9035-73-8, Oxidase 16867-03-1, 2-Amino-3-hydroxypyridine 25711-72-2, 3-Ureido aniline 26021-57-8, 6-Hydroxybenzomorpholine 26455-21-0 63969-46-0 70643-19-5 81329-90-0 81892-72-0 85679-78-3, 3,5-DiAmino-2,6-dimethoxypyridine 149330-25-6 402941-00-8  
435275-61-9 435275-62-0 435275-65-3  
435275-66-4 435275-67-5 435275-68-6  
435275-69-7 435275-70-0 435275-72-2  
435275-73-3 435275-74-4 435275-82-4  
607355-12-4 607355-13-5 607355-16-8  
607355-17-9 607355-18-0 607355-19-1  
607355-20-4 607355-21-5 701975-01-1 701975-04-4  
701975-07-7 701975-08-8 701975-09-9  
701975-10-2 701975-11-3 701975-12-4  
701975-13-5 701975-14-6 701975-15-7  
701975-16-8 701975-17-9 701975-18-0  
701975-19-1 701975-20-4 701975-21-5  
701975-22-6 701975-23-7 701975-24-8  
701975-25-9 701975-26-0 701975-27-1  
701975-28-2 701975-29-3 701975-30-6  
701975-31-7 701975-32-8 701975-33-9  
701975-34-0 701975-35-1 702638-73-1  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising cationic phenylenediamine with pyrrolidine ring and aminophenol)

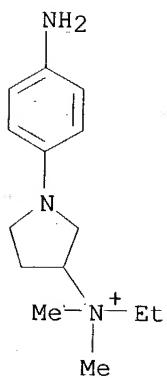
IT 435275-61-9 435275-62-0 435275-65-3  
435275-66-4 435275-67-5 435275-68-6  
435275-69-7 435275-70-0 435275-72-2  
435275-73-3 435275-74-4 435275-82-4  
607355-12-4 607355-13-5 607355-16-8  
607355-17-9 607355-18-0 607355-19-1  
701975-01-1 701975-04-4 701975-07-7  
701975-08-8 701975-09-9 701975-10-2  
701975-11-3 701975-13-5 701975-15-7  
701975-16-8 701975-17-9 701975-18-0  
701975-19-1 701975-20-4 701975-21-5

701975-22-6 701975-23-7 701975-25-9  
701975-27-1 701975-28-2 701975-29-3  
701975-30-6 701975-31-7 701975-32-8  
701975-33-9 701975-34-0 701975-35-1

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising cationic phenylenediamine  
with pyrrolidine ring and aminophenol)

RN 435275-61-9 HCAPLUS

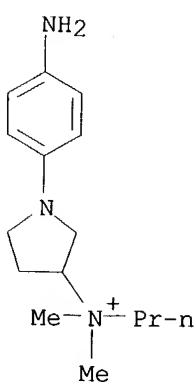
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-62-0 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, iodide  
(9CI) (CA INDEX NAME)

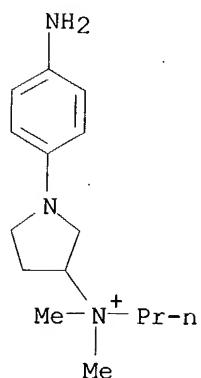


● I<sup>-</sup>

RN 435275-65-3 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, bromide

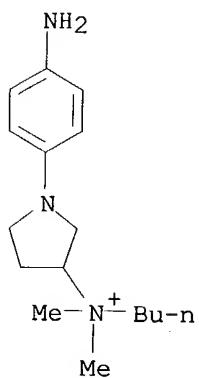
(9CI) (CA INDEX NAME)



● Br<sup>-</sup>

RN 435275-66-4 HCPLUS

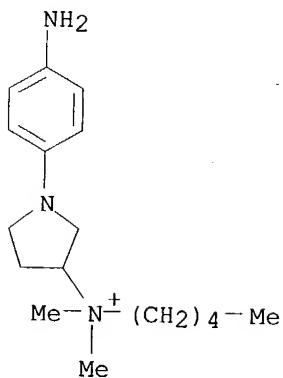
CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N-butyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

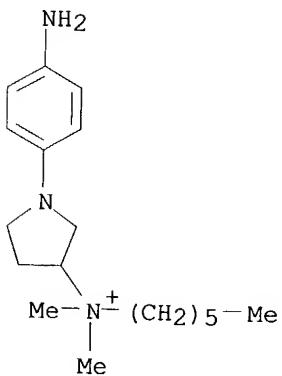
RN 435275-67-5 HCPLUS

CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N,N-dimethyl-N-pentyl-, iodide  
(9CI) (CA INDEX NAME)



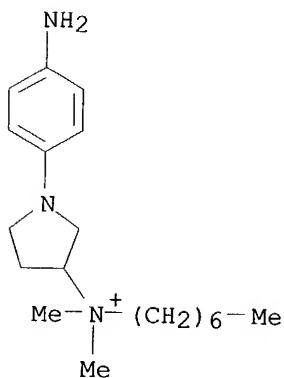
● I<sup>-</sup>

RN 435275-68-6 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



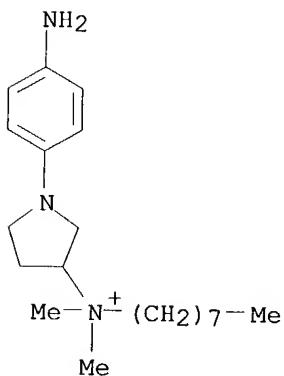
● I<sup>-</sup>

RN 435275-69-7 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-heptyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



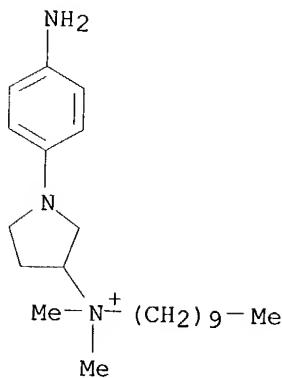
● I<sup>-</sup>

RN 435275-70-0 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-octyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

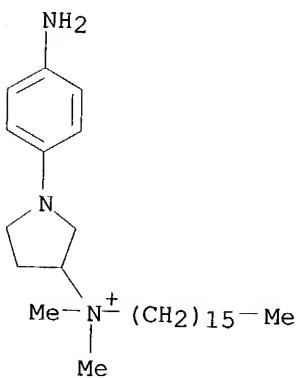
RN 435275-72-2 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-decyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-73-3 HCPLUS

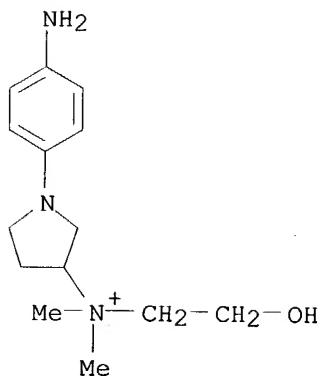
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexadecyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

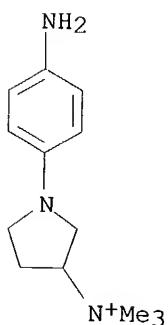
RN 435275-74-4 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-,  
iodide (9CI) (CA INDEX NAME)



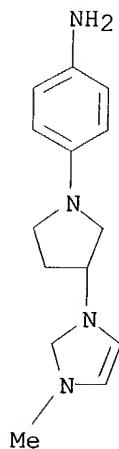
● I -

RN 435275-82-4 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N,N-trimethyl-, chloride (9CI)  
(CA INDEX NAME)



● Cl -

RN 607355-12-4 HCPLUS  
CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-methyl-, chloride  
(9CI) (CA INDEX NAME)

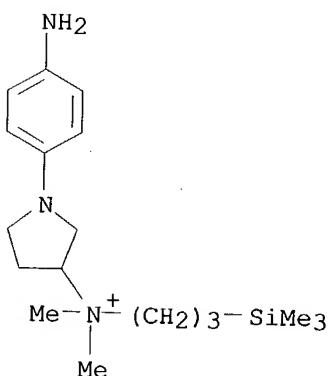


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 607355-13-5 HCPLUS

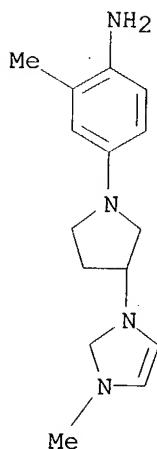
CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

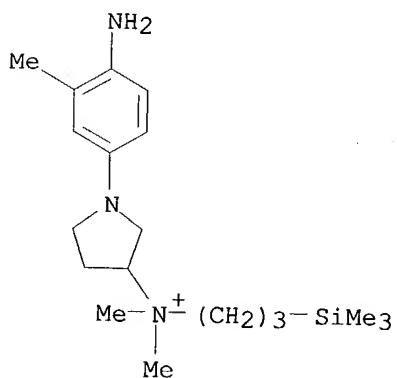
RN 607355-16-8 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



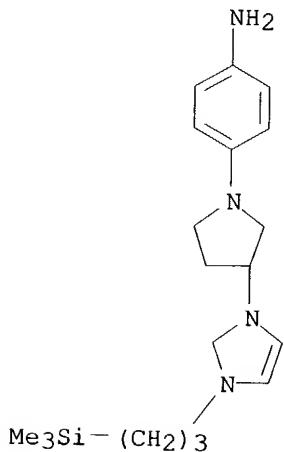
● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 607355-17-9 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-18-0 HCPLUS  
CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)

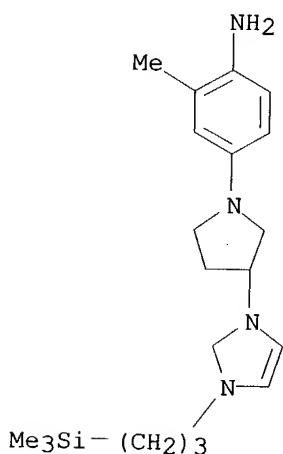


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE.

RN 607355-19-1 HCAPLUS

CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)

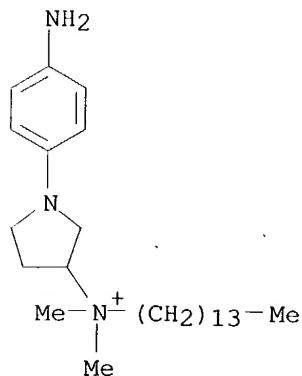


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

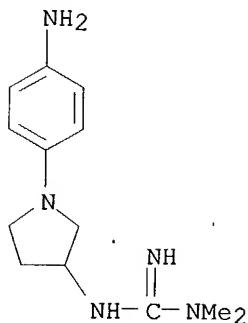
RN 701975-01-1 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-tetradecyl-, bromide (9CI) (CA INDEX NAME)



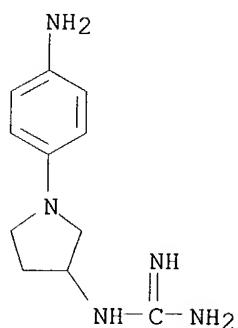
● Br<sup>-</sup>

RN 701975-04-4 HCPLUS  
CN Guanidine, N'-(1-(4-aminophenyl)-3-pyrrolidinyl)-N,N-dimethyl-,  
monohydrochloride (9CI) (CA INDEX NAME)



● HCl

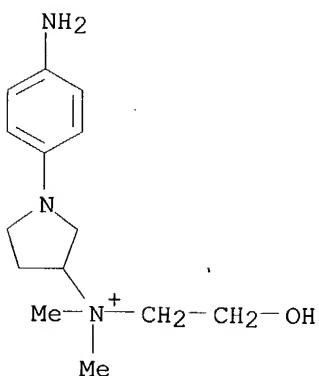
RN 701975-07-7 HCAPLUS  
CN Guanidine, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-, monohydrochloride (9CI)  
(CA INDEX NAME)



● HCl

RN 701975-08-8 HCPLUS

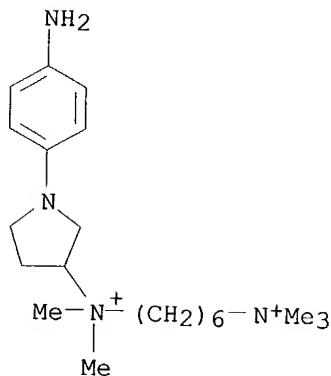
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl-

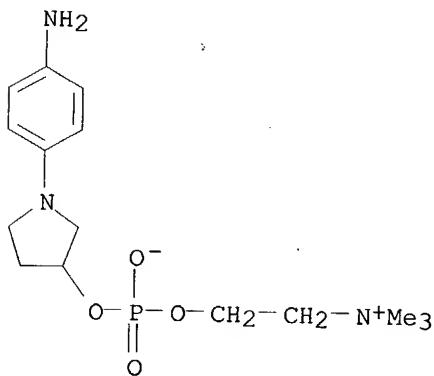
RN 701975-09-9 HCPLUS

CN 1,6-Hexanediaminium, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N,N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)

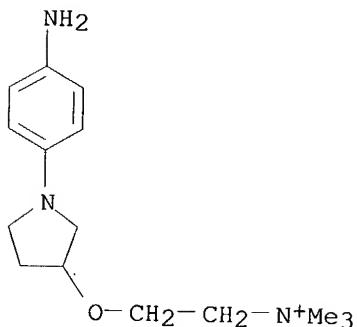


●2 Cl<sup>-</sup>

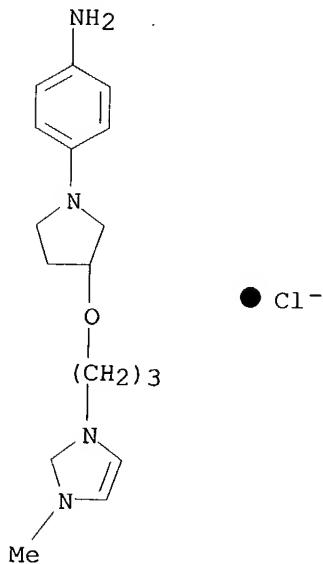
RN 701975-10-2 HCPLUS  
CN Ethanaminium, 2-[[[[1-(4-aminophenyl)-3-pyrrolidinyl]oxy]hydroxyphosphinyl]oxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)



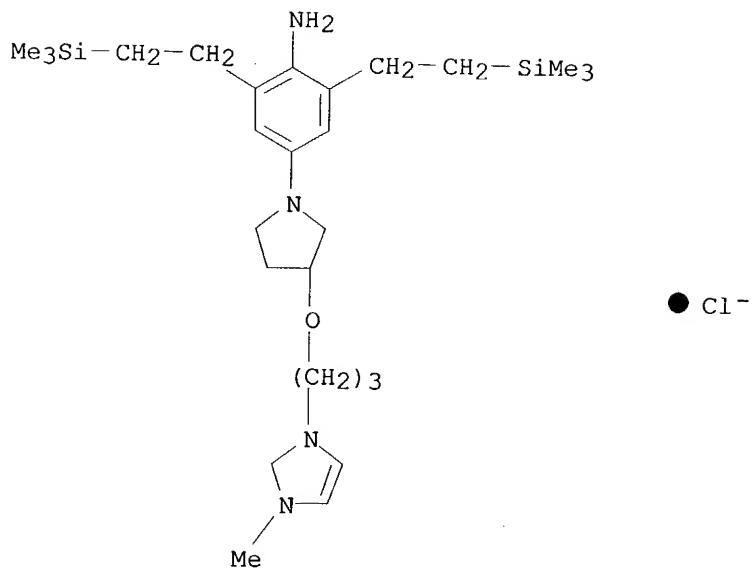
RN 701975-11-3 HCPLUS  
CN Ethanaminium, 2-[[[1-(4-aminophenyl)-3-pyrrolidinyl]oxy]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



RN 701975-13-5 HCPLUS  
CN 1H-Imidazolium, 1-[3-[(1-(4-aminophenyl)-3-pyrrolidinyl)oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



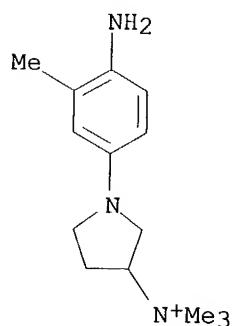
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-15-7 HCPLUS  
CN 1H-Imidazolium, 1-[3-[(1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl)-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

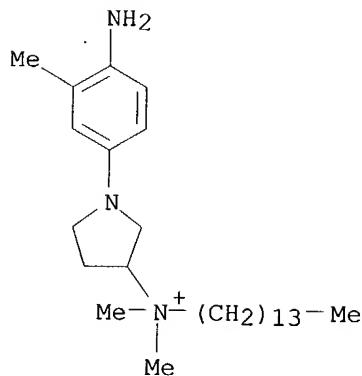
RN 701975-16-8 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N,N-trimethyl-, chloride  
(9CI) (CA INDEX NAME)



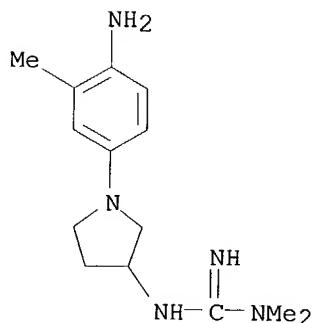
RN 701975-17-9 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-tetradecyl-, chloride (9CI) (CA INDEX NAME)



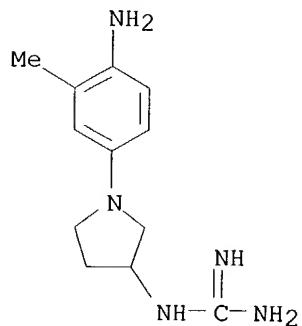
● Cl<sup>-</sup>

RN 701975-18-0 HCPLUS  
CN Guanidine, N'-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-N,N-dimethyl-,  
monohydrochloride (9CI) (CA INDEX NAME)



● HCl

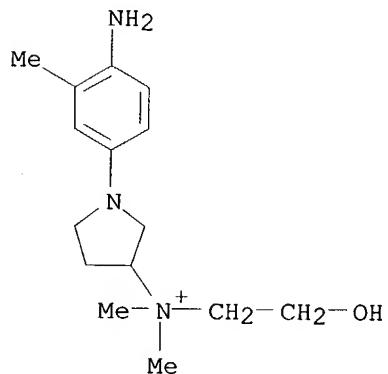
RN 701975-19-1 HCPLUS  
CN Guanidine, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-,  
monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 701975-20-4 HCAPLUS

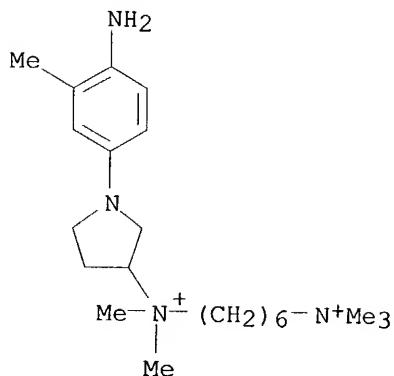
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-21-5 HCAPLUS

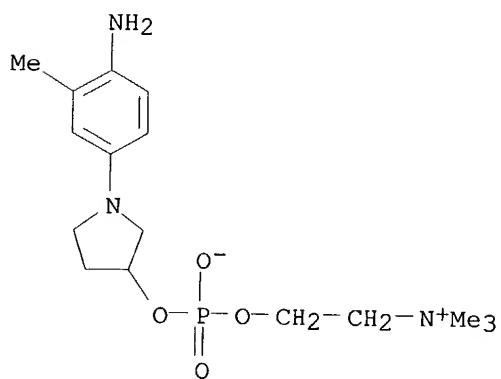
CN 1,6-Hexanediaminium, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-N,N,N',N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)



●2 Cl<sup>-</sup>

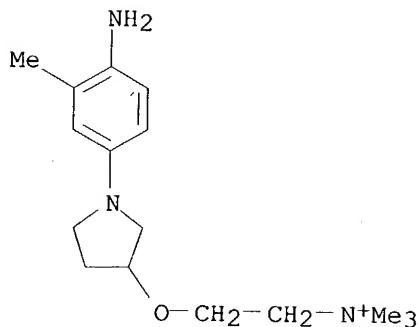
RN 701975-22-6 HCPLUS

CN Ethanaminium, 2-[[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy]hydroxyphosphinyl]oxy]-N,N,N-trimethyl-, inner salt (9CI)  
(CA INDEX NAME)



RN 701975-23-7 HCPLUS

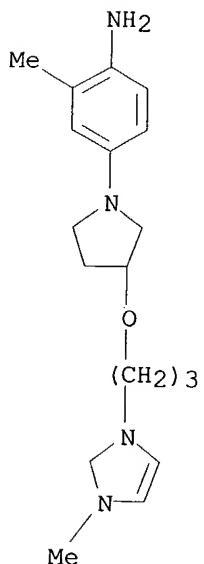
CN Ethanaminium, 2-[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



●  $\text{Cl}^-$

RN 701975-25-9 HCAPLUS

CN 1H-Imidazolium, 1-[3-[(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

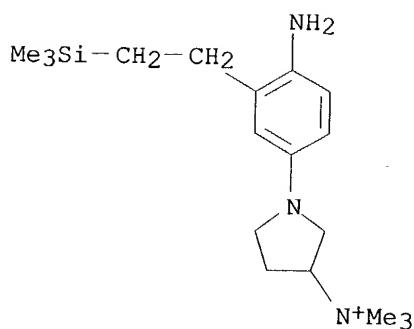


●  $\text{Cl}^-$

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-27-1 HCAPLUS

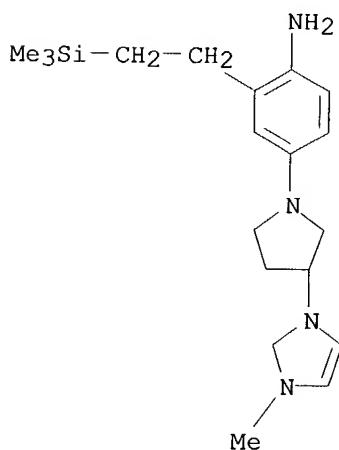
CN 3-Pyrrolidinaminium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-28-2 HCAPLUS

CN 1H-Imidazolium, 1-[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

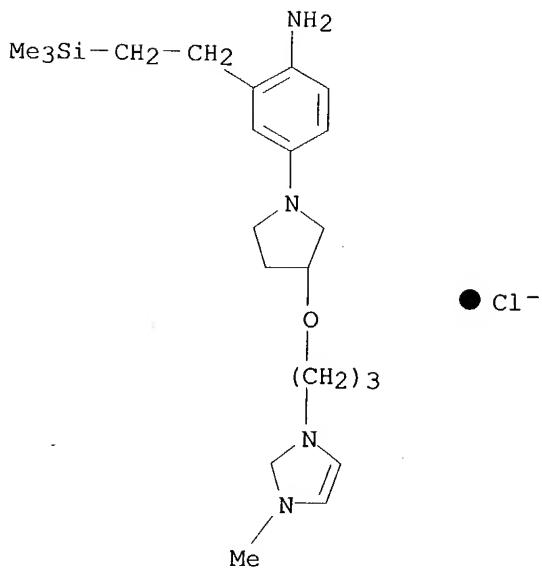


● Cl<sup>-</sup>

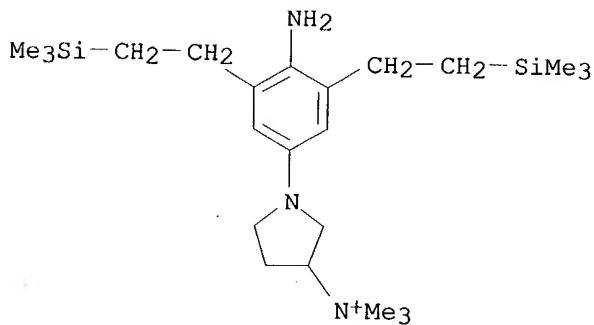
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-29-3 HCAPLUS

CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

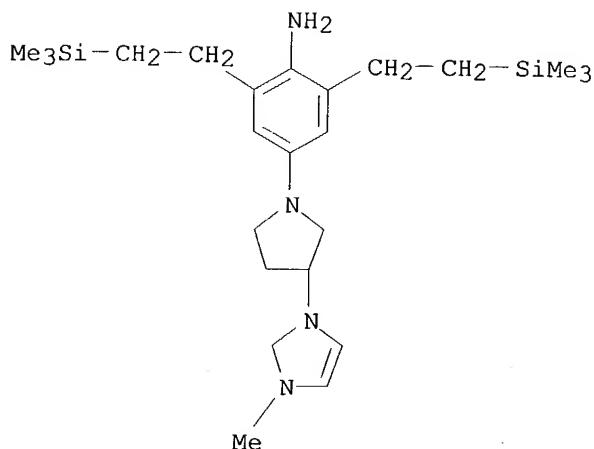


ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-30-6 HCPLUS  
CN 3-Pyrrolidinaminium, 1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl-

RN 701975-31-7 HCPLUS  
CN 1H-Imidazolium, 1-[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

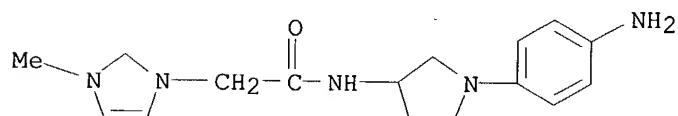


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-32-8 HCPLUS

CN 1H-Imidazolium, 1-[2-[(1-(4-aminophenyl)-3-pyrrolidinyl)amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

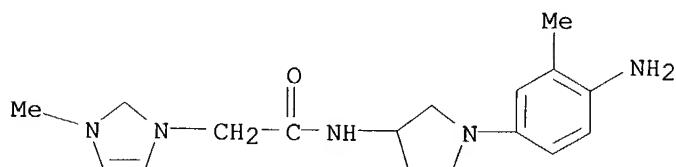


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-33-9 HCPLUS

CN 1H-Imidazolium, 1-[2-[(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

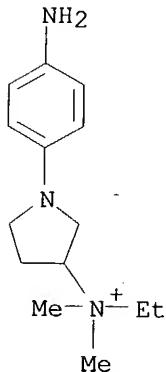


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-34-0 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, chloride  
(9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

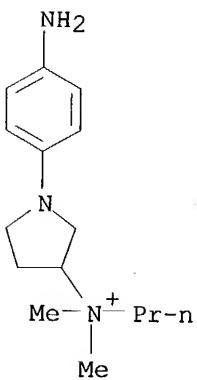
RN 701975-35-1 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, methyl sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 435275-63-1

CMF C15 H26 N3



CM 2

CRN 21228-90-0

CMF C H3 O4 S

Me—O—SO<sub>3</sub><sup>-</sup>

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L31 ANSWER 8 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2004:482166 HCAPLUS  
 DN 141:42538  
 TI Hair dyeing compositions comprising a tertiary p-phenylenediamine with a pyrrolidine ring and a cationic polymer  
 IN Cotteret, Jean; Lagrange, Alain  
 PA L'oreal, Fr.  
 SO Eur. Pat. Appl., 49 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA French  
 FAN.CNT 1
- | PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE     |
|--|------|----------|-----------------|----------|
| PI EP 1428511  | A1   | 20040616 | EP 2003-293136  | 20031212 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,<br>IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK   |      |          |                 |          |
| FR 2848432   | A1   | 20040618 | FR 2002-15765   | 20021213 |
| PRAI FR 2002-15765   | A    | 20021213 |                 |          |
| OS MARPAT 141:42538  |      |          |                 |          |
| AB Hair dyeing compns. comprise a tertiary p-phenylenediamine with a pyrrolidine ring and a cationic polymer. Thus, a composition contained oleic acid 9, polyglyceryl oleyl ether 12, diethylaminopropyl laurylaminosuccinamate sodium salt 3, ethoxylated oleylamine 7, ethoxylated alkyl ether monoethanolamide 10, ammonium acetate 20, hexylene glycol 20, reducing agents 0.915, sequestrants 1, resorcinol 0.085, [1-(4-aminophenyl)pyrrolidin-3-yl]trimethylammonium chloride 1.0, 2-methyl-5-aminophenol 0.5, perfume qs, ammonia 10.2, and water qs to 100 g. The above composition was mixed with 6% H <sub>2</sub> O <sub>2</sub> and applied onto hair. |      |          |                 |          |
| IC ICM A61K007-13  |      |          |                 |          |
| CC 62-3 (Essential Oils and Cosmetics)   |      |          |                 |          |
| ST hair dye phenylenediamine pyrrolidine cationic polymer  |      |          |                 |          |
| IT Phenols, biological studies   |      |          |                 |          |
| RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)<br>(amino; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)  |      |          |                 |          |
| IT Surfactants   |      |          |                 |          |
| (amphoteric; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)   |      |          |                 |          |
| IT Surfactants   |      |          |                 |          |
| (anionic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)  |      |          |                 |          |
| IT Polyelectrolytes  |      |          |                 |          |
| Surfactants<br>(cationic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)  |      |          |                 |          |
| IT Amines, biological studies  |      |          |                 |          |
| RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)<br>(diamines, aromatic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)   |      |          |                 |          |
| IT Hair preparations   |      |          |                 |          |
| (dyes, oxidative; hair dyeing compns. comprising phenylenediamine with   |      |          |                 |          |

pyrrolidine ring and cationic polymer)  
IT Hair preparations  
(dyes; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)  
IT Oxidizing agents  
Surfactants  
Thickening agents  
(hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)  
IT Bromates  
Ethers, biological studies  
Ionene polymers  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)  
IT Surfactants  
(nonionic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)  
IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(peroxy; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)  
IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(phenolic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)  
IT Quaternary ammonium compounds, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(polymers; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)  
IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(salts, peroxo; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)  
IT Surfactants  
(zwitterionic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and cationic polymer)  
IT 56-81-5, Glycerol, biological studies 57-55-6, Propylene glycol, biological studies 64-17-5, Ethanol, biological studies 90-15-3, α-Naphthol 95-55-6D, o-Aminophenol, derivs. 95-88-5, 4-ChloroResorcinol 106-50-3D, p-Phenylenediamine, derivs. 108-45-2, 1,3-Diaminobenzene, biological studies 108-45-2D, m-Phenylenediamine, derivs. 108-46-3, Resorcinol, biological studies 108-46-3D, Resorcinol, derivs. 123-30-8D, p-Aminophenol, derivs. 124-43-6 533-31-3, Sesamol 591-27-5D, m-Aminophenol, derivs. 608-25-3, 2-MethylResorcinol 2380-86-1, 6-Hydroxyindole 2380-94-1, 4-Hydroxyindole 7469-77-4, 2-Methyl-1-naphthol 7556-37-8, 4-Hydroxy-N-methylindole 7722-84-1, Hydrogen peroxide, biological studies 9035-73-8, Oxidase 16867-03-1, 2-Amino-3-hydroxypyridine 25711-72-2, 3-Ureido aniline 26021-57-8, 6-Hydroxybenzomorpholine 26455-21-0 67034-33-7 68393-49-7, Mexomer PO 70643-19-5 81329-90-0 81892-72-0 85679-78-3, 3,5-DiAmino-2,6-dimethoxypyridine 149330-25-6 162230-34-4, 1,6-Hexane dichloride-N,N',N',N'-tetramethyl-1,3-propylenediamine copolymer 402941-00-8 435275-61-9  
435275-62-0 435275-65-3 435275-66-4  
435275-67-5 435275-68-6 435275-69-7  
435275-70-0 435275-72-2 435275-73-3  
435275-74-4 435275-82-4 607355-12-4  
607355-13-5 607355-16-8 607355-17-9

607355-18-0 607355-19-1 607355-20-4 607355-21-5  
701975-01-1 701975-04-4 701975-07-7  
701975-08-8 701975-09-9 701975-10-2  
701975-11-3 701975-12-4 701975-13-5 701975-14-6  
701975-15-7 701975-16-8 701975-17-9  
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701975-28-2 701975-29-3 701975-30-6  
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701975-34-0 701975-35-1

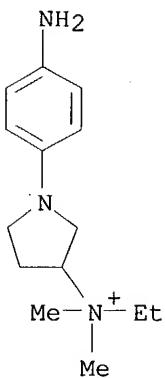
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and cationic polymer)

IT 435275-61-9 435275-62-0 435275-65-3  
435275-66-4 435275-67-5 435275-68-6  
435275-69-7 435275-70-0 435275-72-2  
435275-73-3 435275-74-4 435275-82-4  
607355-12-4 607355-13-5 607355-16-8  
607355-17-9 607355-18-0 607355-19-1  
701975-01-1 701975-04-4 701975-07-7  
701975-08-8 701975-09-9 701975-10-2  
701975-11-3 701975-13-5 701975-15-7  
701975-16-8 701975-17-9 701975-18-0  
701975-19-1 701975-20-4 701975-21-5  
701975-22-6 701975-23-7 701975-25-9  
701975-27-1 701975-28-2 701975-29-3  
701975-30-6 701975-31-7 701975-32-8  
701975-33-9 701975-34-0 701975-35-1

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and cationic polymer)

RN 435275-61-9 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)

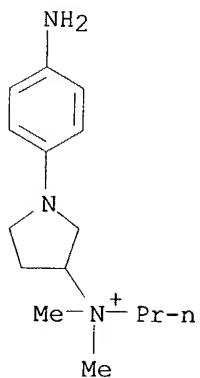


●  $\text{I}^-$

RN 435275-62-0 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, iodide

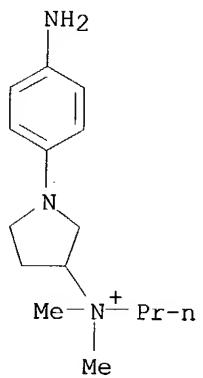
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-65-3 HCPLUS

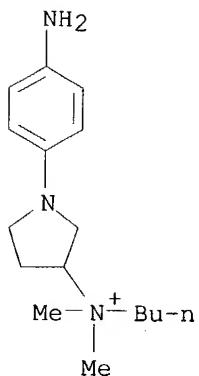
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, bromide  
(9CI) (CA INDEX NAME)



● Br<sup>-</sup>

RN 435275-66-4 HCPLUS

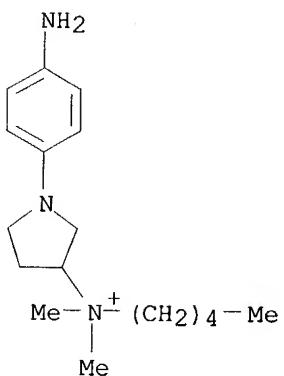
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-butyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-67-5 HCPLUS

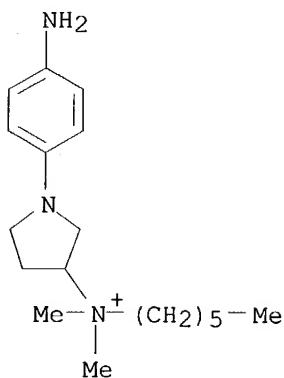
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-pentyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-68-6 HCPLUS

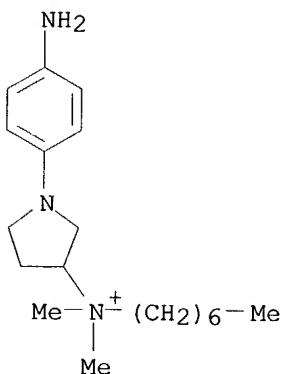
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-69-7 HCPLUS

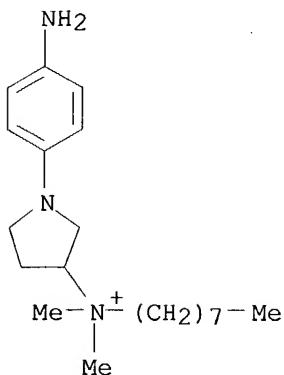
CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N-heptyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-70-0 HCPLUS

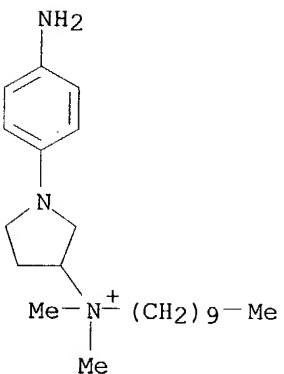
CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N,N-dimethyl-N-octyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-72-2 HCPLUS

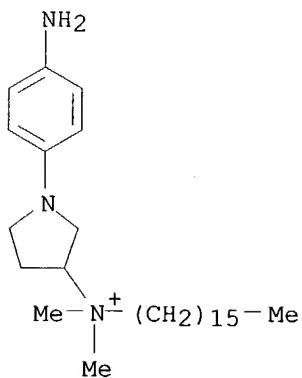
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-decyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-73-3 HCPLUS

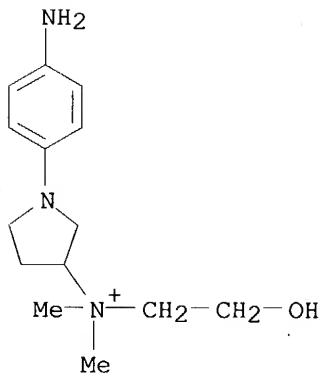
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexadecyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-74-4 HCAPLUS

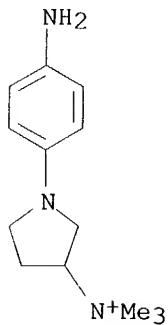
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

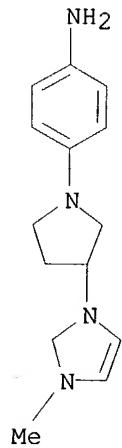
RN 435275-82-4 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



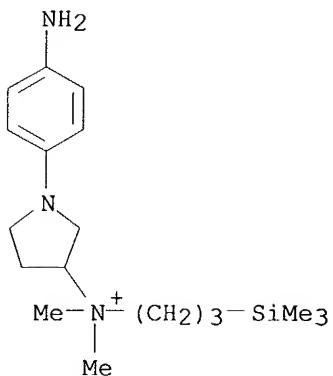
● Cl<sup>-</sup>

RN 607355-12-4 HCAPLUS  
CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-methyl-, chloride  
(9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

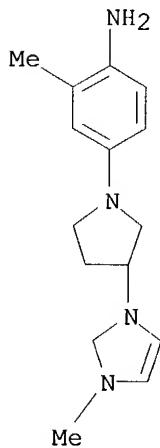
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 607355-13-5 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-16-8 HCAPLUS

CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

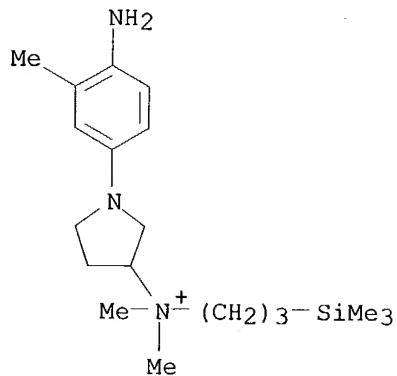


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

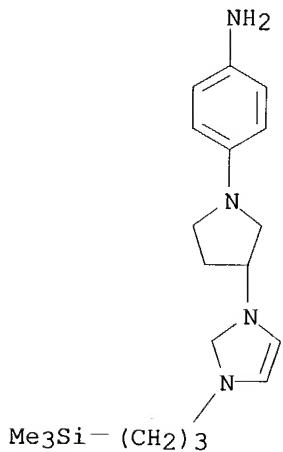
RN 607355-17-9 HCAPLUS

CN 3-Pyrrolidinamininium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



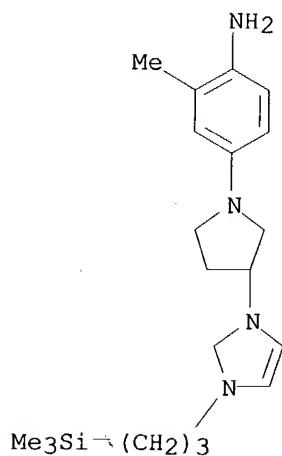
● Cl<sup>-</sup>

RN 607355-18-0 HCPLUS  
CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



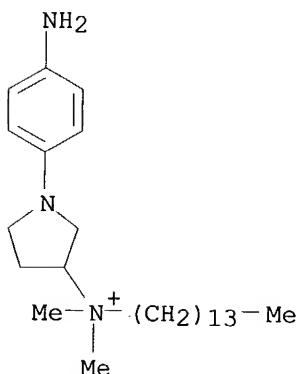
● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 607355-19-1 HCPLUS  
CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



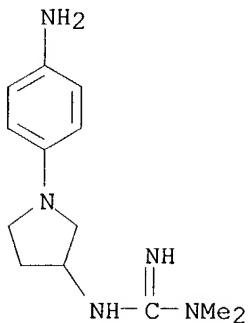
● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-01-1 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-tetradecyl-, bromide  
(9CI) (CA INDEX NAME)



● Br<sup>-</sup>

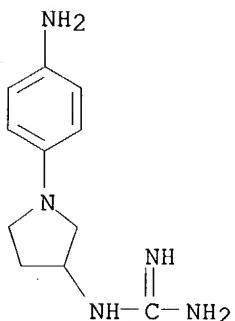
RN 701975-04-4 HCPLUS  
CN Guanidine, N'-(1-(4-aminophenyl)-3-pyrrolidinyl)-N,N-dimethyl-,  
monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 701975-07-7 HCPLUS

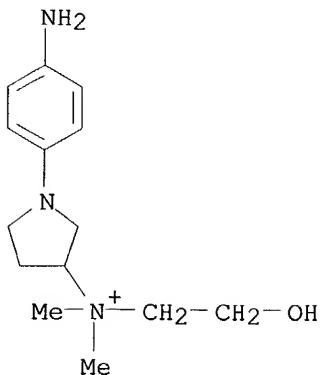
CN Guanidine, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-, monohydrochloride (9CI)  
(CA INDEX NAME)



● HCl

RN 701975-08-8 HCPLUS

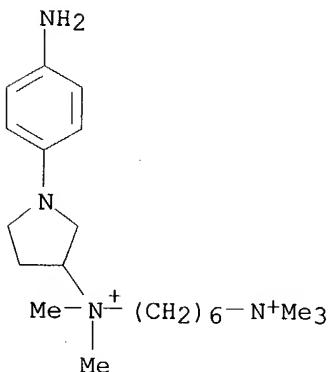
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-,  
chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-09-9 HCPLUS

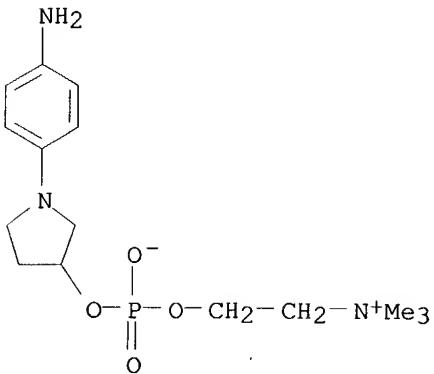
CN 1,6-Hexanediaminium, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N,N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)



●2 Cl<sup>-</sup>

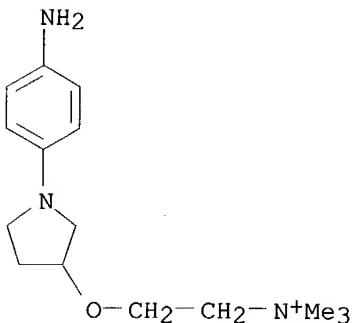
RN 701975-10-2 HCPLUS

CN Ethanaminium, 2-[[[[1-(4-aminophenyl)-3-pyrrolidinyl]oxy]hydroxyphosphinyl]oxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)



RN 701975-11-3 HCAPLUS

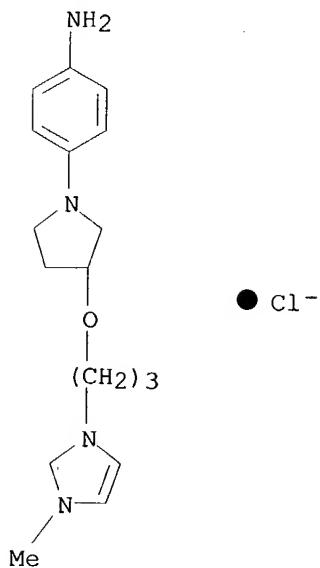
CN Ethanaminium, 2-[[(1-(4-aminophenyl)-3-pyrrolidinyl]oxy]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-13-5 HCAPLUS

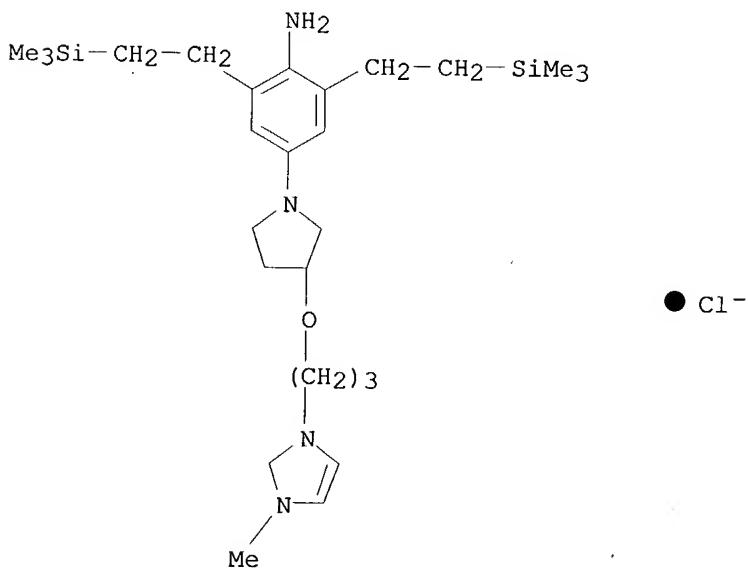
CN 1H-Imidazolium, 1-[3-[[1-(4-aminophenyl)-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-15-7 HCPLUS

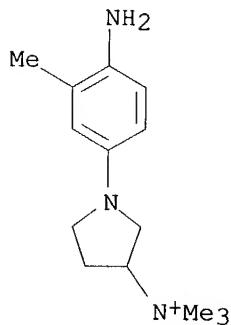
CN 1H-Imidazolium, 1-[3-[(1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl)oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

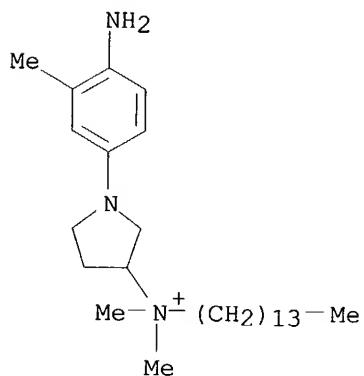
RN 701975-16-8 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



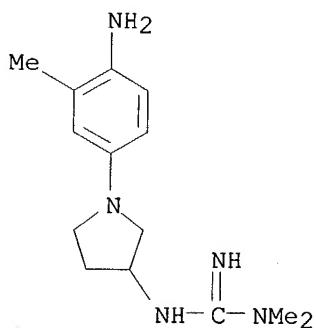
● Cl<sup>-</sup>

RN 701975-17-9 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-tetradecyl-, chloride (9CI) (CA INDEX NAME)



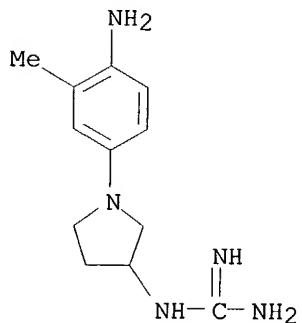
● Cl<sup>-</sup>

RN 701975-18-0 HCAPLUS  
CN Guanidine, N'-(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)-N,N-dimethyl-, monohydrochloride (9CI) (CA INDEX NAME)



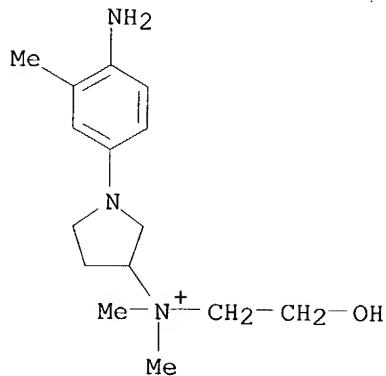
● HCl

RN 701975-19-1 HCPLUS  
CN Guanidine, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

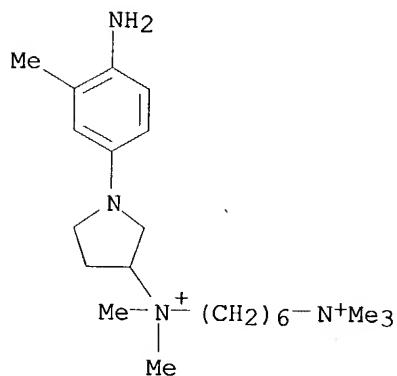
RN 701975-20-4 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-21-5 HCPLUS

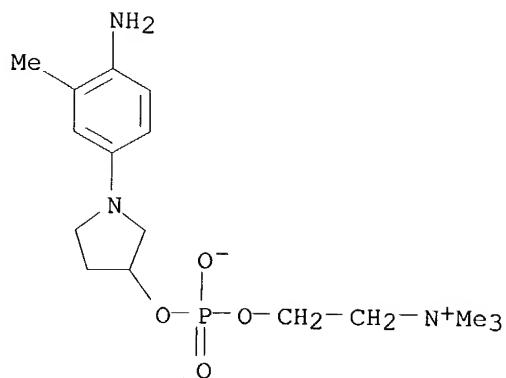
CN 1,6-Hexanediaminium, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-N,N,N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)



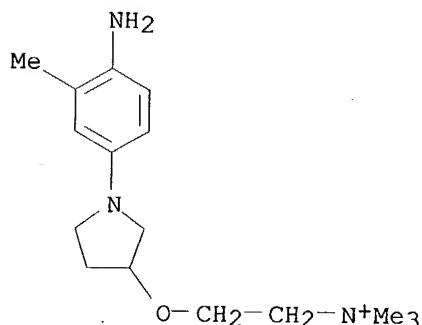
●2 Cl<sup>-</sup>

RN 701975-22-6 HCPLUS

CN Ethanaminium, 2-[[[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy]hydroxyphosphinyl]oxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)

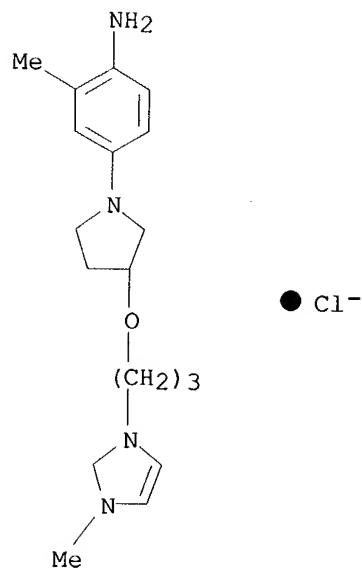


RN 701975-23-7 HCPLUS  
CN Ethanaminium, 2-[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



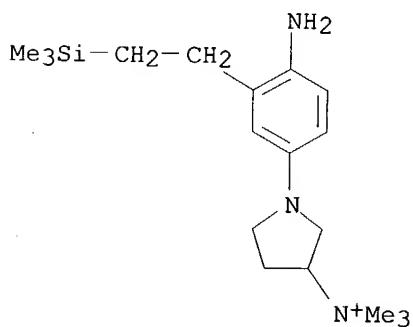
● Cl<sup>-</sup>

RN 701975-25-9 HCPLUS  
CN 1H-Imidazolium, 1-[3-[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-27-1 HCPLUS

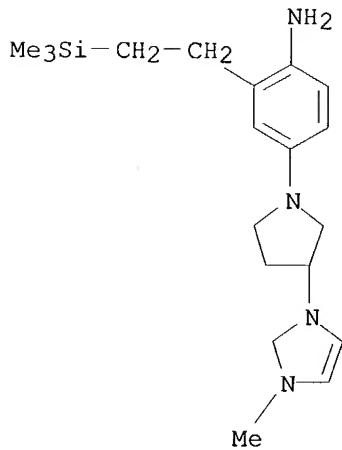
CN 3-Pyrrolidinaminium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-28-2 HCPLUS

CN 1H-Imidazolium, 1-[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

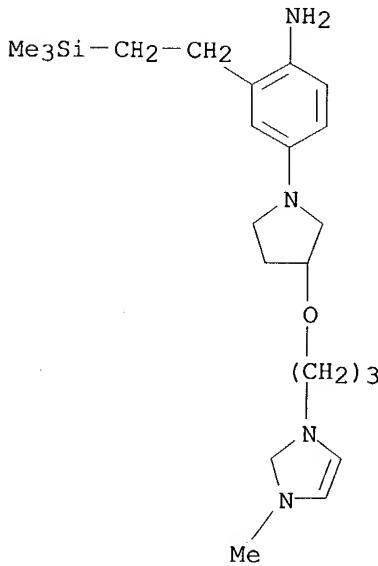


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-29-3 HCPLUS

CN 1H-Imidazolium, 1-[3-[(1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl)oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

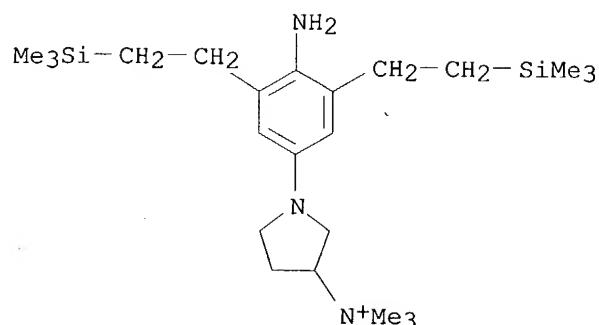


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

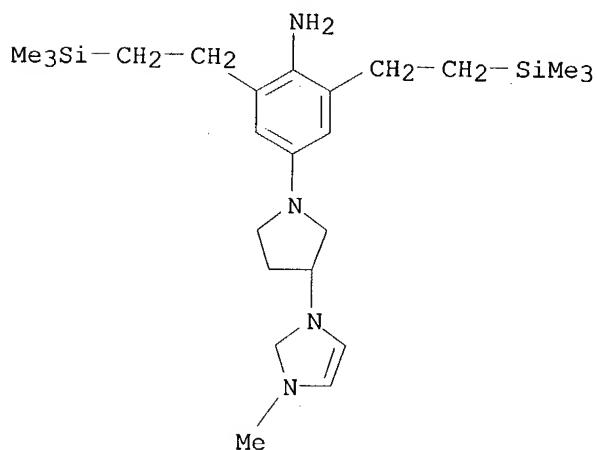
RN 701975-30-6 HCPLUS

CN 3-Pyrrolidinaminium, 1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



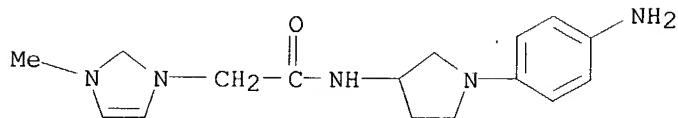
● Cl<sup>-</sup>

RN 701975-31-7 HCPLUS  
CN 1H-Imidazolium, 1-[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

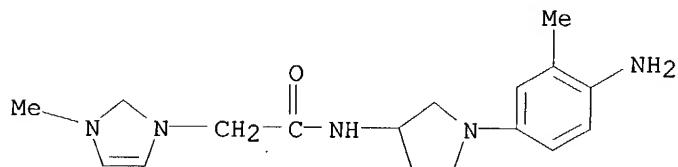
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-32-8 HCPLUS  
CN 1H-Imidazolium, 1-[2-[[1-(4-aminophenyl)-3-pyrrolidinyl]amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-33-9 HCPLUS

CN 1H-Imidazolium, 1-[2-[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

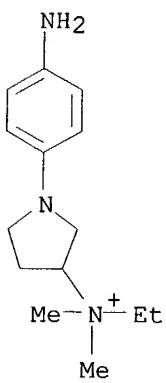


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-34-0 HCPLUS

CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-35-1 HCPLUS

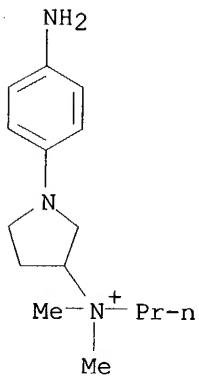
CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, methyl chloride

sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 435275-63-1

CMF C15 H26 N3



CM 2

CRN 21228-90-0

CMF C H3 O4 S

Me-O-SO<sub>3</sub><sup>-</sup>

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L31 ANSWER 9 OF 19 HCPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:482165 HCPLUS  
DN 141:59175  
TI Hair dyeing compositions comprising a tertiary p-phenylenediamine with a pyrrolidine ring and a heterocyclic coupler or a hydroxybenzamide  
IN Cotteret, Jean; Lagrange, Alain  
PA L'oreal, Fr.  
SO Eur. Pat. Appl., 59 pp.  
CODEN: EPXXDW  
DT Patent  
LA French  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1428510	A1	20040616	EP 2003-293135	20031212
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK FR 2848434	A1	20040618	FR 2002-15767	20021213
PRAI	FR 2002-15767	A	20021213		
OS	MARPAT 141:59175				
AB	Hair dyeing compns. comprise a tertiary p-phenylenediamine with a pyrrolidine ring and a heterocyclic coupler or a hydroxybenzamide. Thus,				

a composition contained oleyl alc. 6, oleic acid 3, polyglyceryl oleyl ether 12, diethylaminopropyl laurylaminosuccinamate sodium salt 3, ethoxylated oleylamine 7, ethoxylated alkyl ether monoethanolamide 10, ammonium acetate 20, hexylene glycol 20, reducing agents 0.915, sequestrants 1, [1-(4-aminophenyl)pyrrolidin-3-yl]trimethylammonium chloride 0.8, 6-methoxy-2,3-diaminopyridine 0.5, perfume qs, ammonia 10.2, and water qs to 100 g. The above composition was mixed with 6% H<sub>2</sub>O<sub>2</sub> and applied onto hair.

IC ICM A61K007-13  
CC 62-3 (Essential Oils and Cosmetics)  
ST hair dye phenylenediamine pyrrolidine heterocyclic coupler; hydroxybenzamide hair dye phenylenediamine pyrrolidine  
IT Phenols, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(amino; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)  
IT Surfactants  
(amphoteric; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)  
IT Surfactants  
(anionic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)  
IT Polyelectrolytes  
Surfactants  
(cationic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)  
IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(diamines, aromatic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)  
IT Dyes  
(direct; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)  
IT Hair preparations  
(dyes, oxidative; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)  
IT Hair preparations  
(dyes; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)  
IT Oxidizing agents  
Surfactants  
Thickening agents  
(hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)  
IT Bromates  
Ethers, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)  
IT Surfactants  
(nonionic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)  
IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(peroxy; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)  
IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(phenolic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)

IT Carboxylic acids, biological studies  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (salts, peroxy; hair dyeing compns. comprising phenylenediamine with  
 pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)

IT Surfactants  
 (zwitterionic; hair dyeing compns. comprising phenylenediamine with  
 pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)

IT 55-21-0D, Benzamide, derivs. 56-81-5, Glycerol, biological studies  
 57-55-6, Propylene glycol, biological studies 64-17-5, Ethanol,  
 biological studies 90-15-3,  $\alpha$ -Naphthol 90-52-8,  
 8-Amino-6-methoxyquinoline 95-55-6D, o-Aminophenol, derivs. 95-88-5,  
 4-ChloroResorcinol 106-50-3D, p-Phenylenediamine, derivs. 108-45-2,  
 1,3-Diaminobenzene, biological studies 108-45-2D, m-Phenylenediamine,  
 derivs. 108-46-3, Resorcinol, biological studies 108-46-3D,  
 Resorcinol, derivs. 123-30-8D, p-Aminophenol, derivs. 124-43-6  
 251-62-7D, 5H-Pyrrolo[1,2-c]imidazole, derivs. 251-80-9,  
 1H-Imidazo[1,2-b]pyrazole 251-84-3, 1H-Pyrazolo[1,5-d]tetrazole  
 496-29-7 533-31-3, Sesamol 591-27-5D, m-Aminophenol, derivs.  
 608-25-3, 2-MethylResorcinol 957-46-0 1006-19-5 1076-59-1  
 1677-44-7 1677-46-9 1900-41-0 2380-86-1, 6-Hydroxyindole  
 2380-94-1, 4-Hydroxyindole 3147-44-2 3147-45-3 3543-01-9 3610-10-4  
 3610-11-5 3610-14-8 3610-15-9 3652-66-2 3780-53-8 4583-76-0  
 4701-07-9 4701-08-0 5396-19-0 6377-12-4, 3-Aminocarbazole  
 6604-51-9 6769-56-8 7080-95-7, 1H-Imidazo[1,2-b][1,2,4]triazole  
 7148-88-1 7182-21-0 7182-22-1 7182-23-2 7469-77-4,  
 2-Methyl-1-Naphthol 7556-37-8, 4-Hydroxy-N-methylindole 7711-50-4  
 7711-51-5 7722-84-1, Hydrogen peroxide, biological studies 9035-73-8,  
 Oxidase 13196-11-7, 6-Hydroxybenzofuran 14268-66-7,  
 5-Amino-1,3-benzodioxole 14300-45-9 15579-15-4, 5-Hydroxyindazole  
 16162-66-6 16867-03-1, 2-Amino-3-hydroxypyridine 17113-07-4  
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 diol 22065-99-2 23244-88-4, 6-Hydroxyindazole 23998-01-8  
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 26455-21-0 26707-11-9 28020-38-4 28228-71-9 28228-73-1  
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 1,2,4-triazole, derivs. 29269-71-4 29269-80-5 29539-03-5  
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 40038-56-0D, 1H-Pyrrolo[1,2-b][1,2,4]triazole, derivs. 40485-91-4  
 40485-97-0 42318-46-7, 1H-Pyrazolo[1,5-a]benzimidazole 42351-84-8  
 42375-07-5D, 1H-Pyrrolo[1,2-c][1,2,3]triazole, derivs. 49572-43-2  
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 60026-12-2 61975-74-4 62950-39-4 63457-00-1 65738-28-5  
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 97717-38-9 99840-92-3 99922-32-4 99922-34-6 100960-96-1  
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 197355-53-6 197355-54-7 197355-55-8 197355-56-9 197355-57-0  
 197355-58-1 197355-59-2 197355-60-5 197355-61-6 197355-62-7  
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RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing compns. comprising phenylenediamine with pyrrolidine ring  
 and heterocyclic coupler or hydroxybenzamide)

IT 197355-77-4 197355-78-5 197355-79-6 197355-80-9 197355-81-0  
 197355-82-1 197355-83-2 197355-85-4 197355-86-5 197355-87-6  
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 1H-Imidazo[1,2-b]pyrazol-6-amine 197356-48-2 197356-49-3 197356-51-7  
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**701975-10-2 701975-11-3 701975-12-4**  
**701975-13-5** 701975-14-6 **701975-15-7**  
**701975-16-8 701975-17-9 701975-18-0**  
**701975-19-1 701975-20-4 701975-21-5**  
**701975-22-6 701975-23-7 701975-24-8**  
**701975-25-9** 701975-26-0 **701975-27-1**  
**701975-28-2 701975-29-3 701975-30-6**  
**701975-31-7 701975-32-8 701975-33-9**  
**701975-34-0 701975-35-1** 705927-33-9 705927-34-0  
 705927-35-1 705927-36-2 705927-37-3 705927-38-4 705927-39-5  
 705927-40-8, 5,7-Benzoxazolediamine 705927-41-9 705927-42-0  
 705927-43-1 705927-44-2 705927-45-3, 4,6-Benzoxazolediamine

705927-47-5 705927-48-6 705927-49-7 705927-50-0 705927-51-1  
 705927-52-2 705927-53-3 705927-54-4 705927-55-5 705927-56-6  
 705927-56-6D, derivs. 705927-57-7 705927-58-8 705927-59-9  
 705927-60-2 705927-61-3 705927-62-4 705927-63-5 705927-64-6  
 705927-65-7 705927-66-8 705927-67-9 705927-68-0 705927-69-1  
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 705928-06-9 705928-07-0 705928-08-1 705928-09-2

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing compns. comprising phenylenediamine with  
 pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)

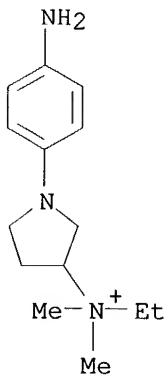
IT 705928-10-5 705928-11-6 705928-12-7 705928-13-8 705928-14-9  
 705928-15-0, 5,7-Benzofurandiamine 705928-16-1 705928-17-2  
 705928-18-3 705928-19-4, 4,6-Benzofurandiamine 705928-20-7  
 705928-21-8 705928-22-9 705928-23-0 705928-24-1 705928-25-2  
 705928-26-3 705928-27-4 705928-28-5 705928-29-6 705928-30-9  
 705928-31-0 705928-32-1 705928-33-2 705928-34-3 705928-35-4,  
 1,3-Benzodioxole-4,5,7-triamine 705928-36-5 705928-37-6 706788-00-3  
 706788-01-4 706788-02-5

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing compns. comprising phenylenediamine with pyrrolidine ring  
 and heterocyclic coupler or hydroxybenzamide)

IT 435275-61-9 435275-62-0 435275-65-3  
 435275-66-4 435275-67-5 435275-68-6  
 435275-69-7 435275-70-0 435275-72-2  
 435275-73-3 435275-74-4 435275-82-4  
 607355-12-4 607355-13-5 607355-16-8 607355  
 5-17-9 607355-18-0 607355-19-1  
 701975-01-1 701975-04-4 701975-07-7  
 701975-08-8 701975-09-9 701975-10-2  
 701975-11-3 701975-13-5 701975-15-7  
 701975-16-8 701975-17-9 701975-18-0  
 701975-19-1 701975-20-4 701975-21-5  
 701975-22-6 701975-23-7 701975-25-9  
 701975-27-1 701975-28-2 701975-29-3  
 701975-30-6 701975-31-7 701975-32-8  
 701975-33-9 701975-34-0 701975-35-1

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing compns. comprising phenylenediamine with  
 pyrrolidine ring and heterocyclic coupler or hydroxybenzamide)

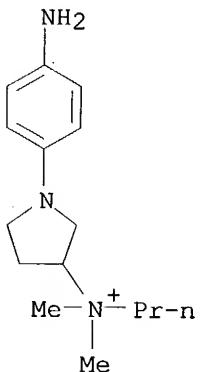
RN 435275-61-9 HCAPLUS  
 CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, iodide (9CI)  
 (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-62-0 HCPLUS

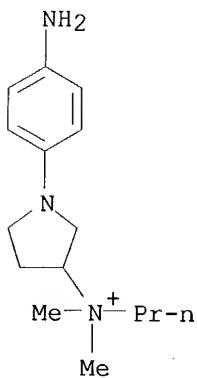
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-65-3 HCPLUS

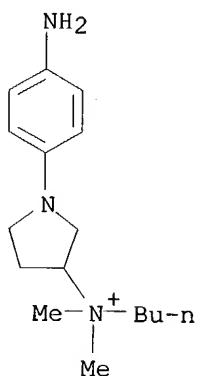
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, bromide  
(9CI) (CA INDEX NAME)



● Br<sup>-</sup>

RN 435275-66-4 HCPLUS

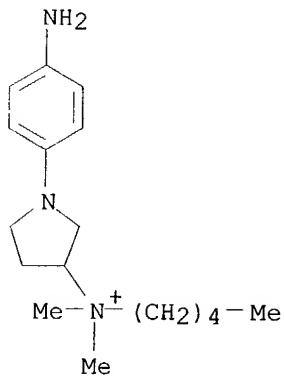
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-butyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-67-5 HCPLUS

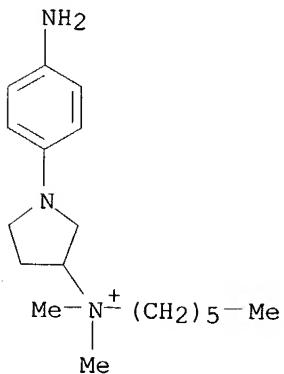
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-pentyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-68-6 HCAPLUS

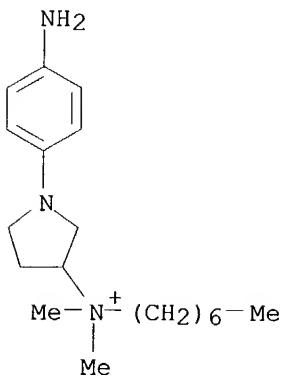
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

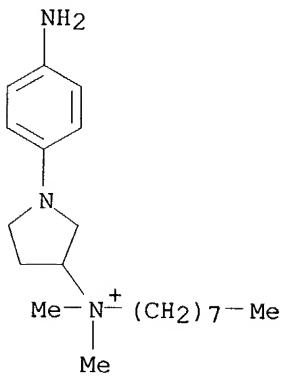
RN 435275-69-7 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-heptyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



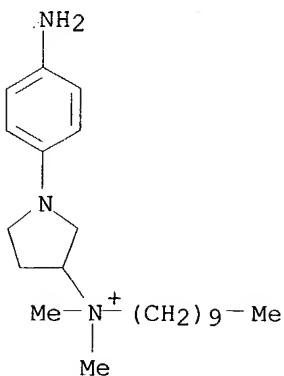
1

RN 435275-70-0 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-octyl-, iodide (9CI)  
(CA INDEX NAME)



I -

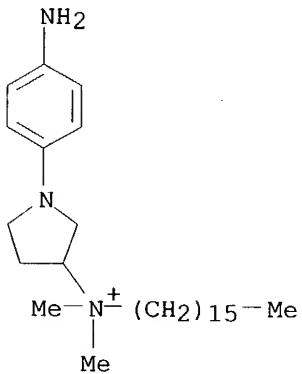
RN 435275-72-2 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-decyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-73-3 HCPLUS

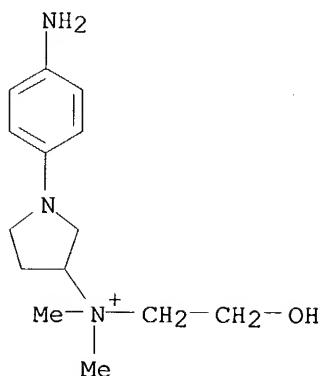
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexadecyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-74-4 HCPLUS

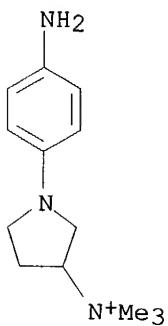
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-,  
iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-82-4 HCPLUS

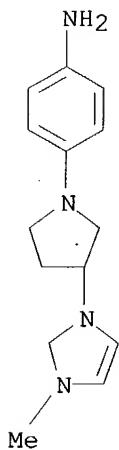
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N,N-trimethyl-, chloride (9CI)  
(CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-12-4 HCPLUS

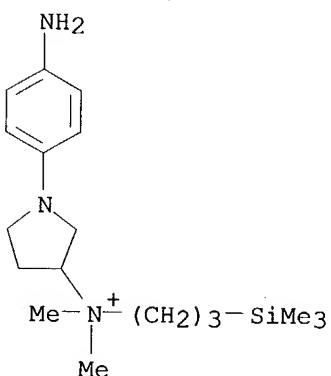
CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-methyl-, chloride  
(9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 607355-13-5 HCPLUS

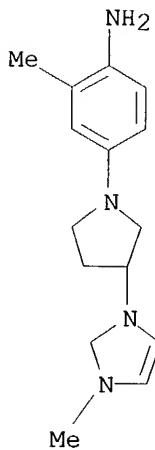
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-16-8 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

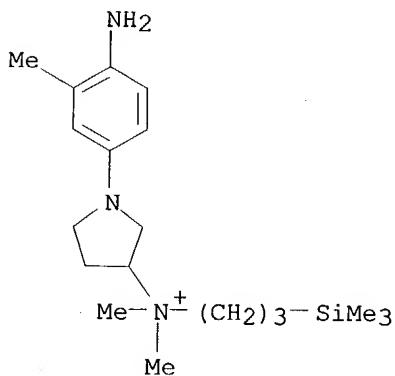


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 607355-17-9 HCPLUS

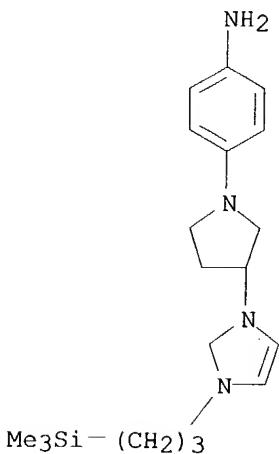
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-18-0 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)

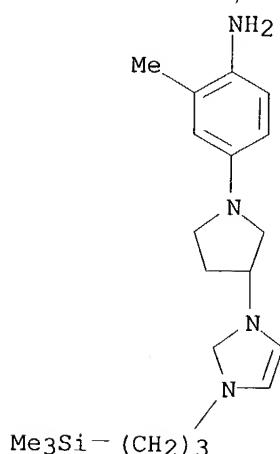


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 607355-19-1 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)

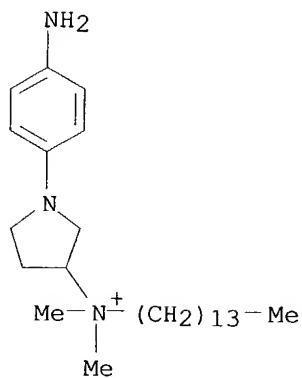


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-01-1 HCPLUS

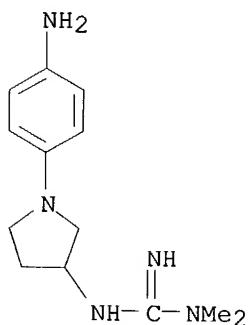
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-tetradecyl-, bromide (9CI) (CA INDEX NAME)



● Br<sup>-</sup>

RN 701975-04-4 HCPLUS

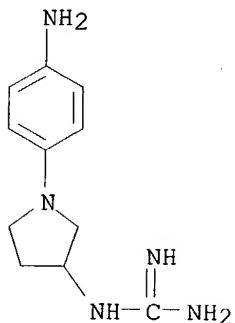
CN Guanidine, N'-[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N-dimethyl-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 701975-07-7 HCPLUS

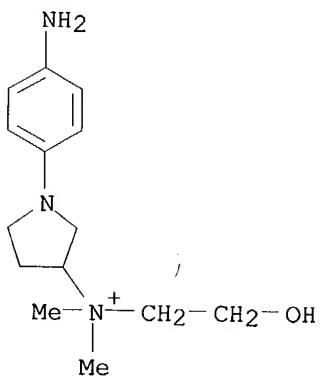
CN Guanidine, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 701975-08-8 HCPLUS

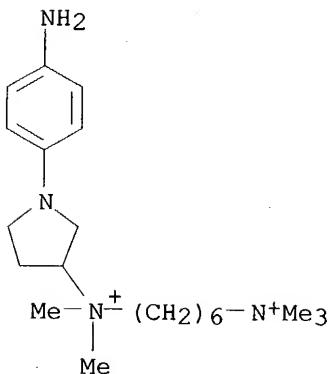
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

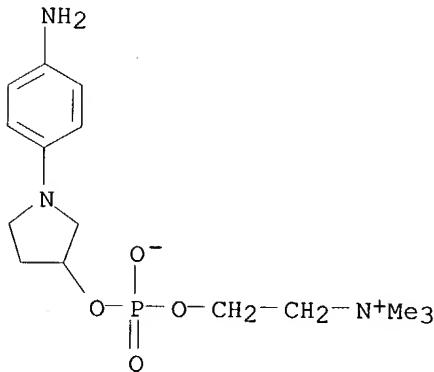
RN 701975-09-9 HCPLUS

CN 1,6-Hexanediaminium, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N,N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)

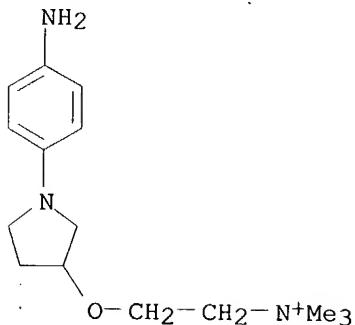


●2 Cl<sup>-</sup>

RN 701975-10-2 HCAPLUS  
CN Ethanaminium, 2-[[[[1-(4-aminophenyl)-3-pyrrolidinyl]oxy]hydroxyphosphinyl]oxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)



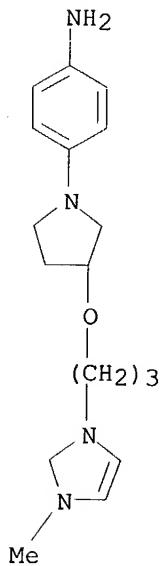
RN 701975-11-3 HCAPLUS  
CN Ethanaminium, 2-[[(1-(4-aminophenyl)-3-pyrrolidinyl)oxy]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-13-5 HCAPLUS

CN 1H-Imidazolium, 1-[3-[[1-(4-aminophenyl)-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

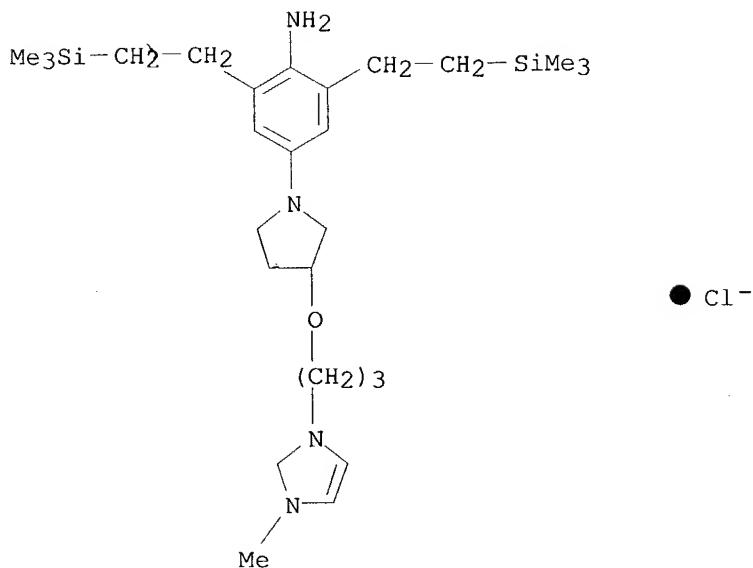


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-15-7 HCAPLUS

CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3,5-bis(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

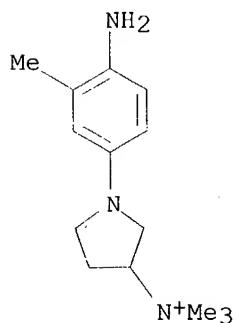


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-16-8 HCPLUS

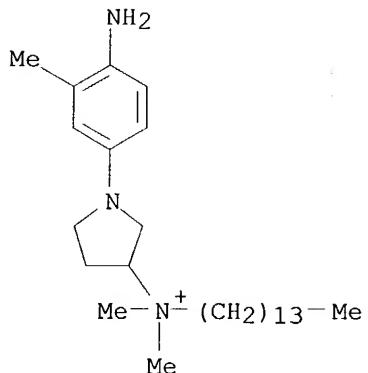
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N,N-trimethyl-, chloride  
(9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-17-9 HCPLUS

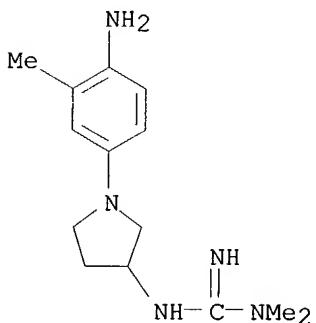
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-tetradecyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-18-0 HCAPLUS

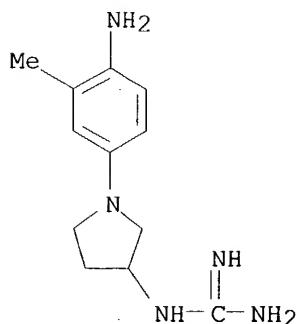
CN Guanidine, N'-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-N,N-dimethyl-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 701975-19-1 HCAPLUS

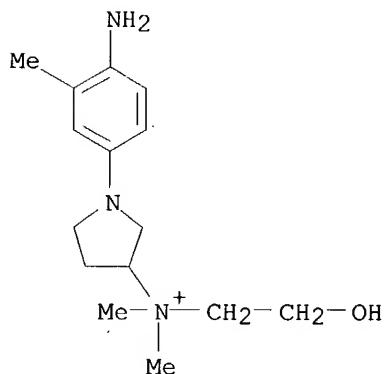
CN Guanidine, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 701975-20-4 HCAPLUS

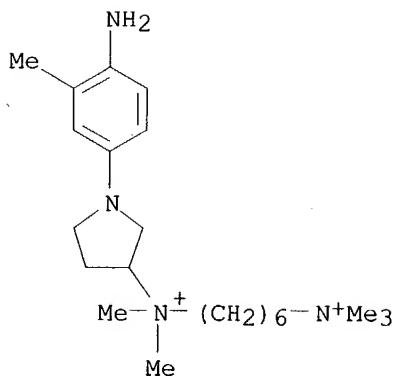
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-21-5 HCAPLUS

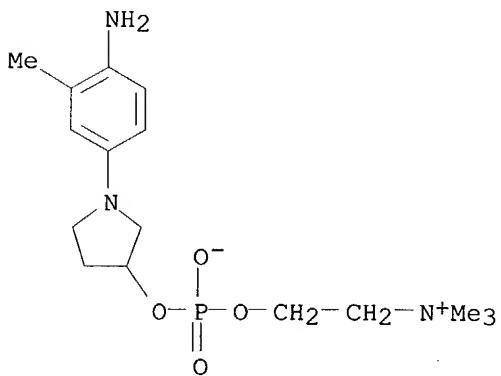
CN 1,6-Hexanediaminium, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-N,N,N',N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)



●2 Cl<sup>-</sup>

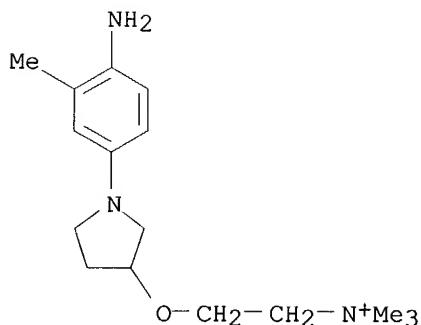
RN 701975-22-6 HCPLUS

CN Ethanaminium, 2-[[[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy]hydroxyphosphinyl]oxy]-N,N,N-trimethyl-, inner salt (9CI)  
(CA INDEX NAME)



RN 701975-23-7 HCPLUS

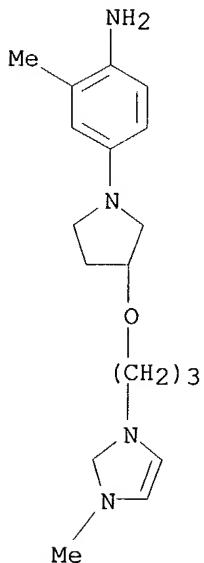
CN Ethanaminium, 2-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-25-9 HCAPLUS

CN 1H-Imidazolium, 1-[3-[(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

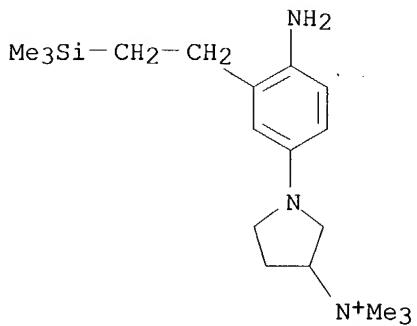


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

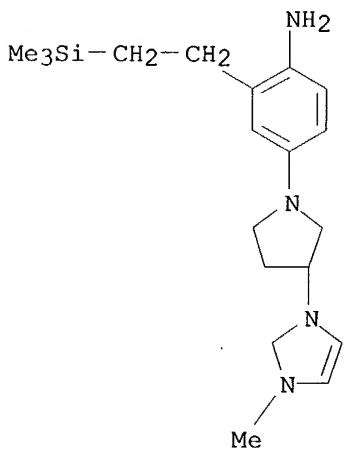
RN 701975-27-1 HCAPLUS

CN 3-Pyrrolidinamininium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



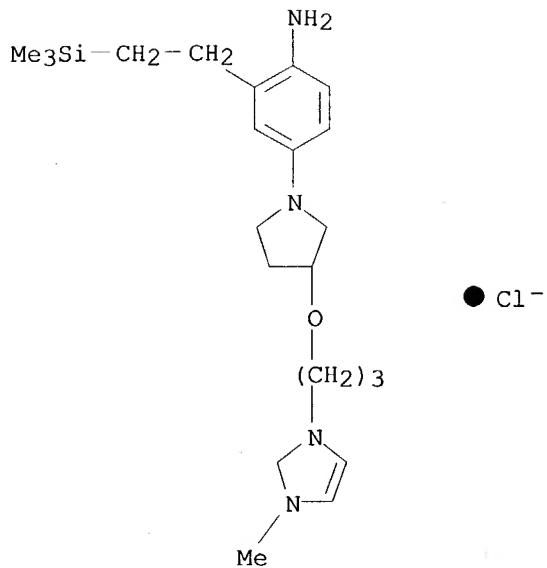
● Cl<sup>-</sup>

RN 701975-28-2 HCPLUS  
CN 1H-Imidazolium, 1-[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

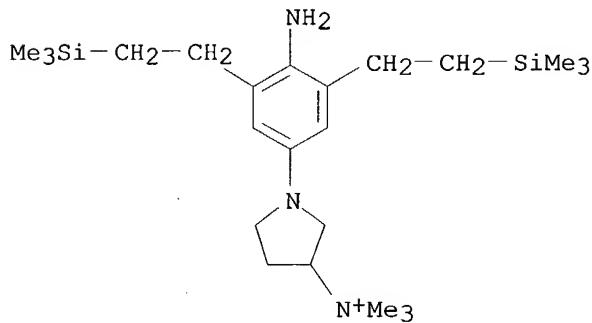
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-29-3 HCPLUS  
CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-30-6 HCAPLUS

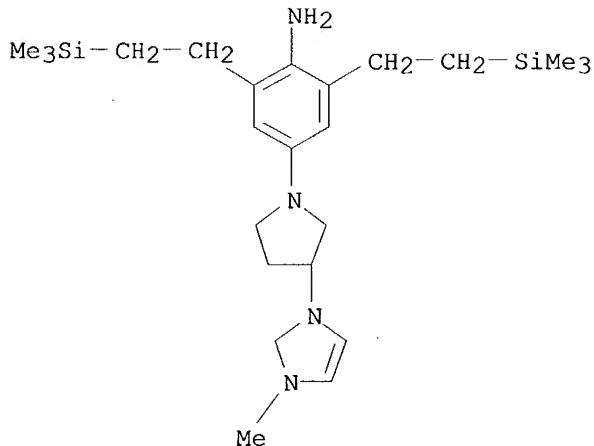
CN 3-Pyrrolidinaminium, 1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-  
N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl-

RN 701975-31-7 HCAPLUS

CN 1H-Imidazolium, 1-[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-  
pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

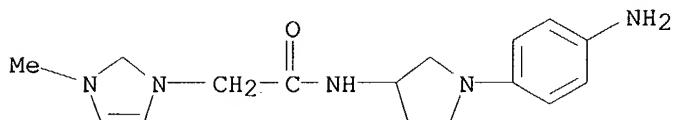


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-32-8 HCPLUS

CN 1H-Imidazolium, 1-[2-[[1-(4-aminophenyl)-3-pyrrolidinyl]amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

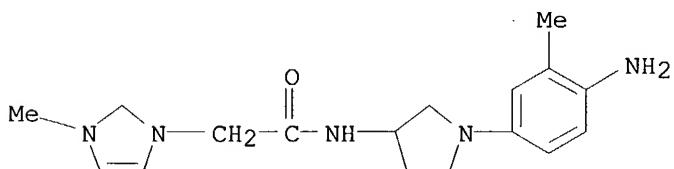


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-33-9 HCPLUS

CN 1H-Imidazolium, 1-[2-[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

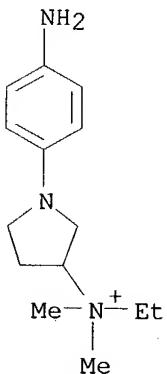


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-34-0 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, chloride  
(9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

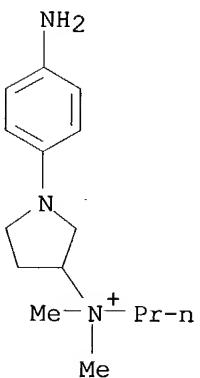
RN 701975-35-1 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, methyl sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 435275-63-1

CMF C15 H26 N3



CM 2

CRN 21228-90-0

CMF C H3 O4 S

Me—O—SO<sub>3</sub><sup>-</sup>

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L31 ANSWER 10 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2004:482164 HCAPLUS  
 DN 141:42537  
 TI Hair dyeing compositions comprising a tertiary p-phenylenediamine with a pyrrolidine ring and a polyol  
 IN Cotteret, Jean; Lagrange, Alain  
 PA L'oreal, Fr.  
 SO Eur. Pat. Appl., 50 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA French  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 1428509	A1	20040616	EP 2003-293134	20031212
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
FR 2848438	A1	20040618	FR 2002-15771	20021213
PRAI FR 2002-15771	A	20021213		
OS MARPAT 141:42537				
AB Hair dyeing compns. comprise a tertiary p-phenylenediamine with a pyrrolidine ring and a polyol. Thus, a composition contained oleic acid 9, polyglyceryl oleyl ether 12, diethylaminopropyl laurylaminosuccinamate sodium salt 3, ethoxylated oleylamine 7, ethoxylated alkyl ether monoethanolamide 10, ammonium acetate 20, hexylene glycol 20, reducing agents 0.915, sequestrants 1, resorcinol 0.085, [1-(4-aminophenyl)pyrrolidin-3-yl]trimethylammonium chloride 1.0, 2-methyl-5-aminophenol 0.5, perfume qs, ammonia 10.2, and water qs to 100 g. The above composition was mixed with 6% H2O2 and applied onto hair.				
IC ICM A61K007-13				
CC 62-3 (Essential Oils and Cosmetics)				
ST hair dye polyol phenylenediamine pyrrolidine				
IT Phenols, biological studies				
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses) (amino; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)				
IT Surfactants				
(amphoteric; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)				
IT Surfactants				
(anionic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)				
IT Polyelectrolytes				
Surfactants (cationic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)				
IT Amines, biological studies				
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses) (diamines, aromatic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)				
IT Dyes				
(direct; hair dyeing compns. comprising phenylenediamine with				

pyrrolidine ring and polyol)  
IT Hair preparations  
(dyes, oxidative; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)  
IT Hair preparations  
(dyes; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)  
IT Oxidizing agents  
Surfactants  
Thickening agents  
(hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)  
IT Bromates  
Ethers, biological studies  
Polyoxyalkylenes, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)  
IT Surfactants  
(nonionic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)  
IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(peroxy; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)  
IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(phenolic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)  
IT Alcohols, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(polyhydric; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)  
IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(salts, peroxo; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)  
IT Surfactants  
(zwitterionic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and polyol)  
IT 50-70-4, Sorbitol, biological studies 56-81-5, Glycerol, biological studies 57-55-6, Propylene glycol, biological studies 64-17-5, Ethanol, biological studies 76-09-5, Pinacol 90-15-3,  $\alpha$ -Naphthol 95-55-6D, o-Aminophenol, derivs. 95-88-5, 4-ChloroResorcinol 106-50-3D, p-Phenylenediamine, derivs. 107-41-5, Hexylene glycol 107-88-0, 1,3-Butanediol 108-45-2, 1,3-Diaminobenzene, biological studies 108-45-2D, m-Phenylenediamine, derivs. 108-46-3, Resorcinol, biological studies 108-46-3D, Resorcinol, derivs. 111-29-5, 1,5-Pentanediol 123-30-8D, p-Aminophenol, derivs. 124-43-6 126-30-7, Neopentyl glycol 513-85-9, 2,3-Butanediol 533-31-3, Sesamol 591-27-5D, m-Aminophenol, derivs. 608-25-3, 2-MethylResorcinol 2163-42-0, 2-Methyl-1,3-propanediol 2380-86-1, 6-Hydroxyindole 2380-94-1, 4-Hydroxyindole 2568-33-4, Isoprene glycol 3068-00-6, 1,2,4-Butanetriol 4435-50-1, 1,2,3-Butanetriol 4457-71-0, 3-Methyl-1,5-pantanediol 7469-77-4, 2-Methyl-1-naphthol 7556-37-8, 4-Hydroxy-N-methylindole 7564-64-9, 3-Methyl-1,3,5-pantanetriol 7722-84-1, Hydrogen peroxide, biological studies 9035-73-8, Oxidase 16867-03-1, 2-Amino-3-hydroxypyridine 25322-68-3, Polyethylene glycol 25711-72-2, 3-Ureido aniline 26021-57-8, 6-Hydroxybenzomorpholine

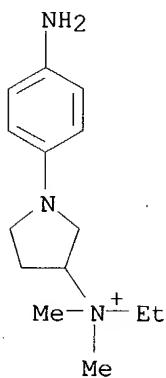
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**435275-61-9 435275-62-0 435275-65-3**  
**435275-66-4 435275-67-5 435275-68-6**  
**435275-69-7 435275-70-0 435275-72-2**  
**435275-73-3 435275-74-4 435275-82-4**  
**607355-12-4 607355-13-5 607355-16-8**  
**607355-17-9 607355-18-0 607355-19-1**  
**607355-20-4 607355-21-5 701975-01-1 701975-04-4**  
**701975-07-7 701975-08-8 701975-09-9**  
**701975-10-2 701975-11-3 701975-12-4**  
**701975-13-5 701975-14-6 701975-15-7**  
**701975-16-8 701975-17-9 701975-18-0**  
**701975-19-1 701975-20-4 701975-21-5**  
**701975-22-6 701975-23-7 701975-24-8**  
**701975-25-9 701975-26-0 701975-27-1**  
**701975-28-2 701975-29-3 701975-30-6**  
**701975-31-7 701975-32-8 701975-33-9**  
**701975-34-0 701975-35-1**

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and polyol)

IT **435275-61-9 435275-62-0 435275-65-3**  
**435275-66-4 435275-67-5 435275-68-6**  
**435275-69-7 435275-70-0 435275-72-2**  
**435275-73-3 435275-74-4 435275-82-4**  
**607355-12-4 607355-13-5 607355-16-8**  
**607355-17-9 607355-18-0 607355-19-1**  
**701975-01-1 701975-04-4 701975-07-7**  
**701975-08-8 701975-09-9 701975-10-2**  
**701975-11-3 701975-13-5 701975-15-7**  
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**701975-19-1 701975-20-4 701975-21-5**  
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**701975-27-1 701975-28-2 701975-29-3**  
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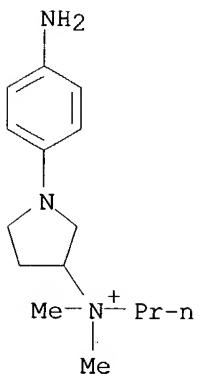
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and polyol)

RN 435275-61-9 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



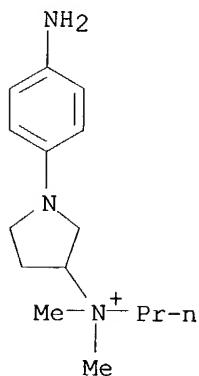
● I<sup>-</sup>

RN 435275-62-0 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

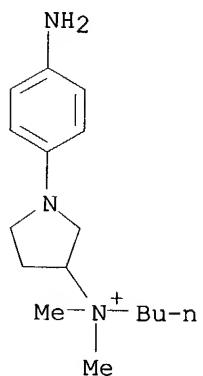
RN 435275-65-3 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, bromide  
(9CI) (CA INDEX NAME)



● Br<sup>-</sup>

RN 435275-66-4 HCAPLUS

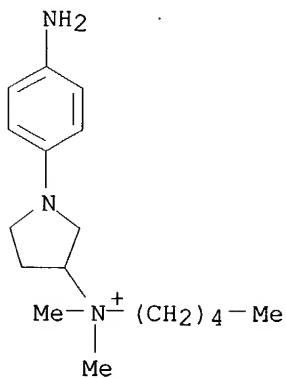
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-butyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-67-5 HCAPLUS

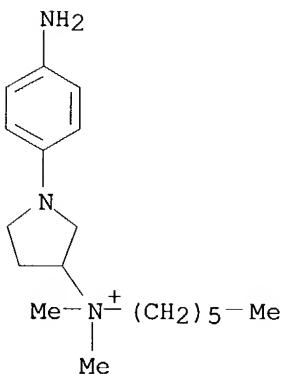
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-pentyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-68-6 HCPLUS

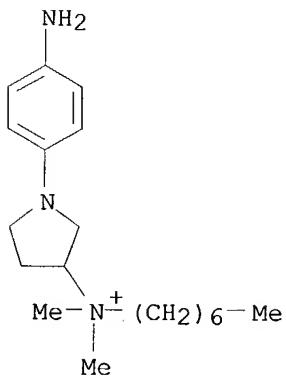
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-69-7 HCPLUS

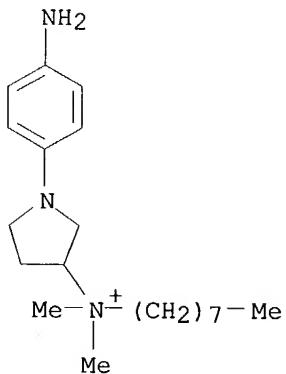
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-heptyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-70-0 HCPLUS

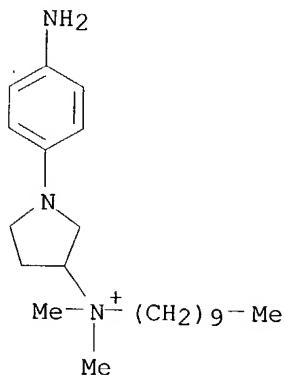
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-octyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-72-2 HCPLUS

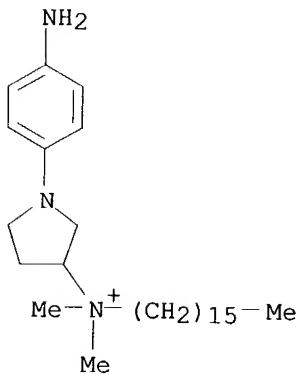
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-decyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-73-3 HCPLUS

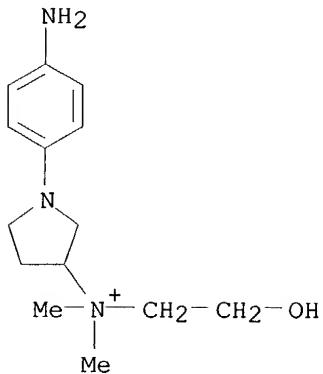
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexadecyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



● II<sup>-</sup>

RN 435275-74-4 HCPLUS

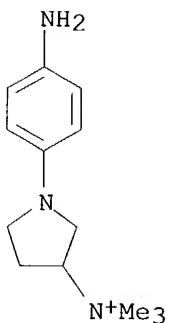
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-,  
iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-82-4 HCPLUS

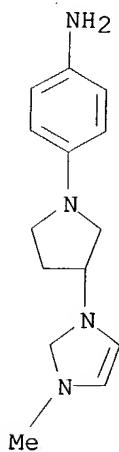
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N,N-trimethyl-, chloride (9CI)  
(CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-12-4 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-methyl-, chloride  
(9CI) (CA INDEX NAME)

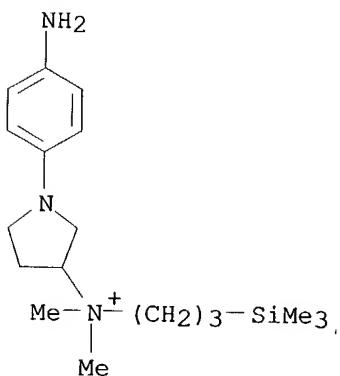


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 607355-13-5 HCPLUS

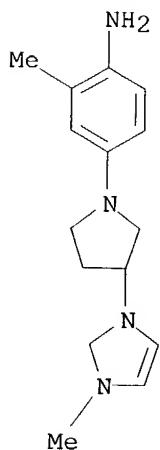
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-16-8 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

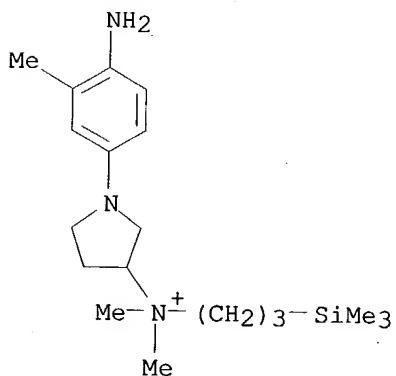


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 607355-17-9 HCPLUS

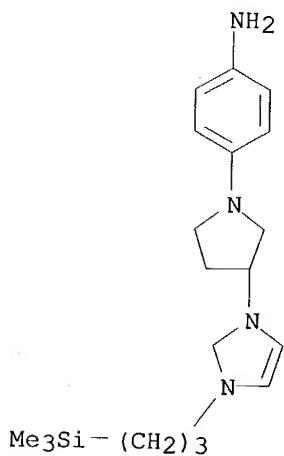
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-18-0 HCPLUS

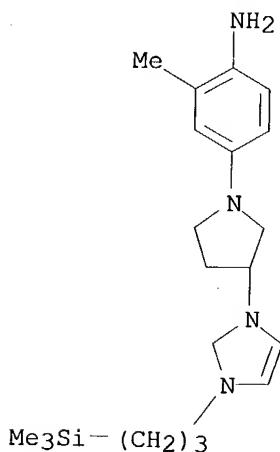
CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 607355-19-1 HCPLUS

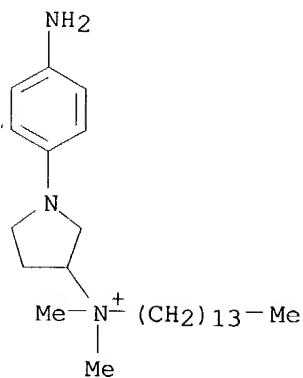
CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-01-1 HCPLUS

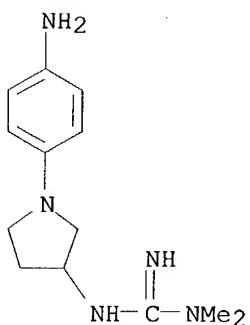
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-tetradecyl-, bromide (9CI) (CA INDEX NAME)



●  $\text{Br}^-$

RN 701975-04-4 HCPLUS

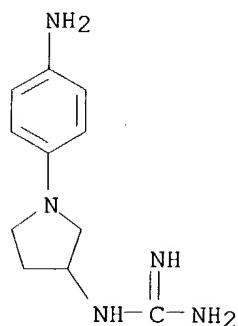
CN Guanidine, N'-(1-(4-aminophenyl)-3-pyrrolidinyl)-N,N-dimethyl-,  
monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 701975-07-7 HCPLUS

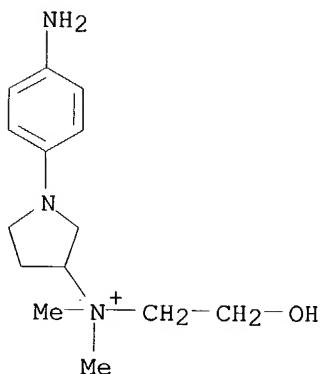
CN Guanidine, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-, monohydrochloride (9CI)  
(CA INDEX NAME)



● HCl

RN 701975-08-8 HCPLUS

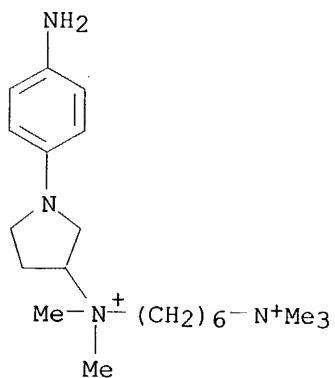
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl-

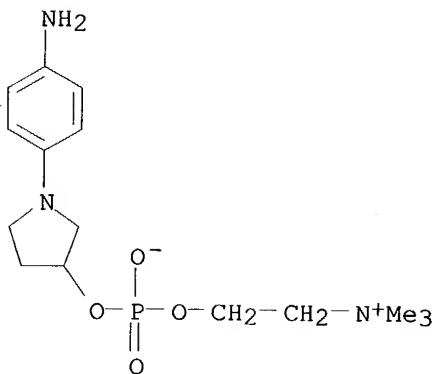
RN 701975-09-9 HCPLUS

CN 1,6-Hexanediaminium, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N,N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)

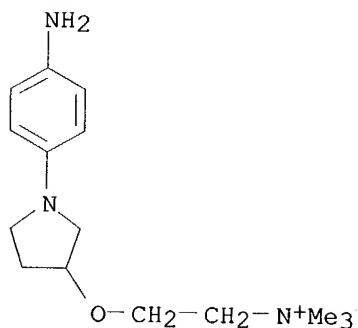


●2 Cl<sup>-</sup>

RN 701975-10-2 HCPLUS  
CN Ethanaminium, 2-[{[1-(4-aminophenyl)-3-pyrrolidinyl]oxy}hydroxyphosphinyl]oxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)

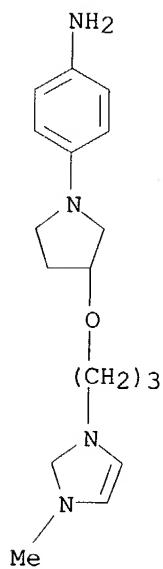


RN 701975-11-3 HCPLUS  
CN Ethanaminium, 2-[{[1-(4-aminophenyl)-3-pyrrolidinyl]oxy}-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



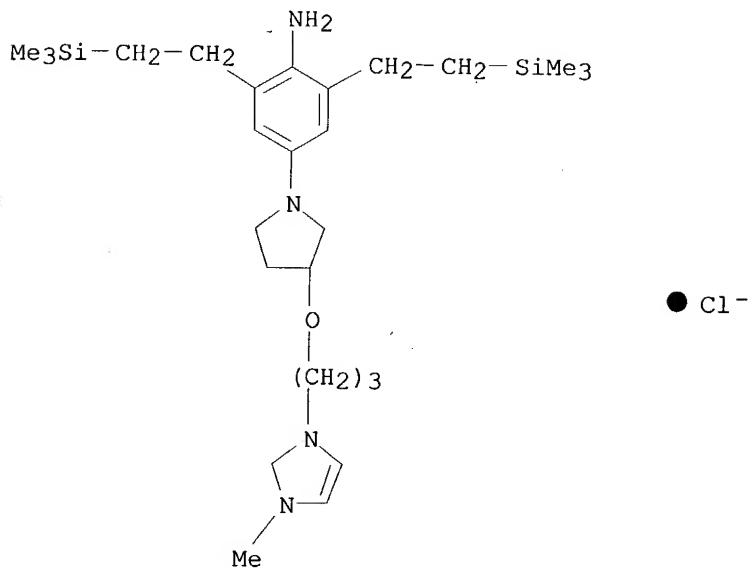
● Cl<sup>-</sup>

RN 701975-13-5 HCPLUS  
CN 1H-Imidazolium, 1-[3-[[1-(4-aminophenyl)-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

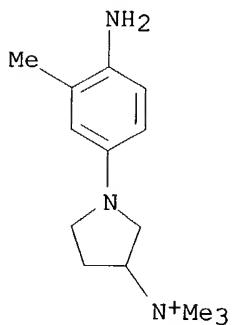


● Cl<sup>-</sup>

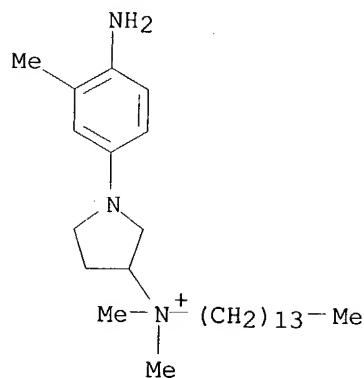
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-15-7 HCPLUS  
CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3,5-bis(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-16-8 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N,N-trimethyl-, chloride  
(9CI) (CA INDEX NAME)

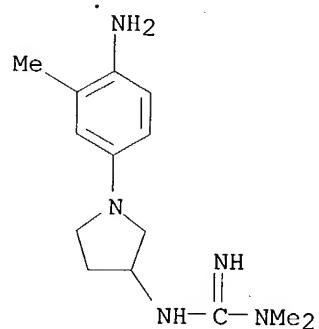


RN 701975-17-9 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-tetradecyl-, chloride (9CI) (CA INDEX NAME)



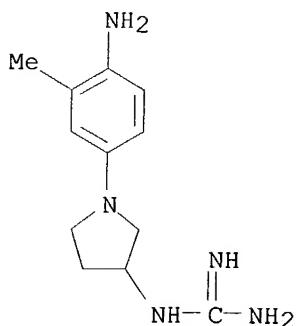
● Cl<sup>-</sup>

RN 701975-18-0 HCPLUS  
CN Guanidine, N'-(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)-N,N-dimethyl-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

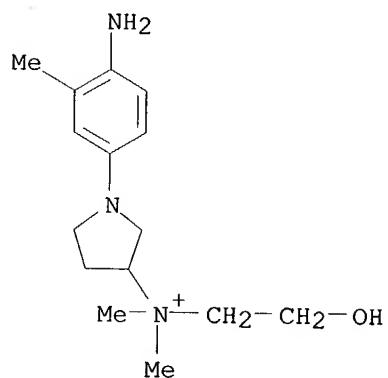
RN 701975-19-1 HCPLUS  
CN Guanidine, N-(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 701975-20-4 HCAPLUS

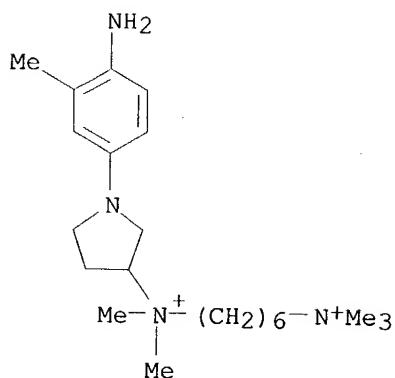
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl-

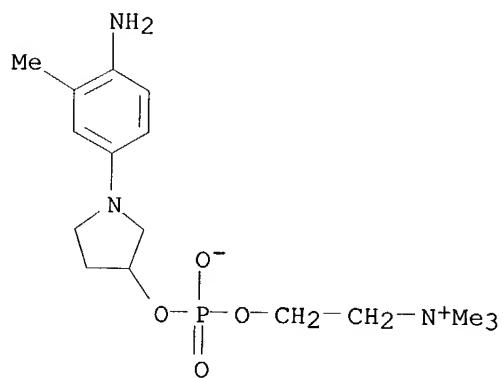
RN 701975-21-5 HCAPLUS

CN 1,6-Hexanediaminium, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-N,N,N',N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)

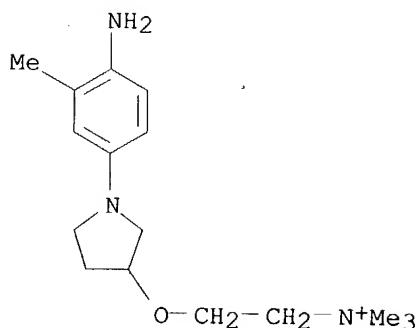


●2 Cl<sup>-</sup>

RN 701975-22-6 HCPLUS  
CN Ethanaminium, 2-[[[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy]hydroxyphosphinyl]oxy]-N,N,N-trimethyl-, inner salt (9CI)  
(CA INDEX NAME)



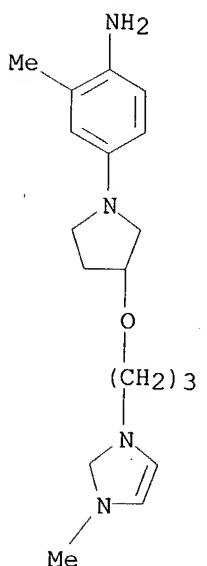
RN 701975-23-7 HCPLUS  
CN Ethanaminium, 2-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-25-9 HCAPLUS

CN 1H-Imidazolium, 1-[3-[(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

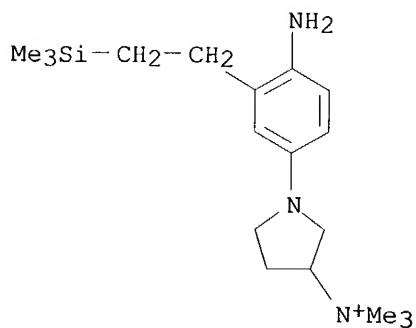


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-27-1 HCAPLUS

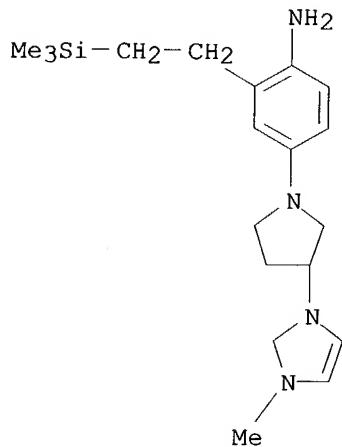
CN 3-Pyrrolidinaminium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-28-2 HCAPLUS

CN 1H-Imidazolium, 1-[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

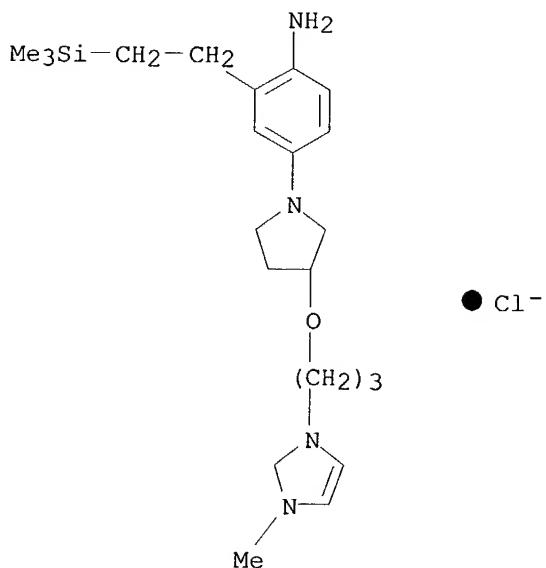


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-29-3 HCAPLUS

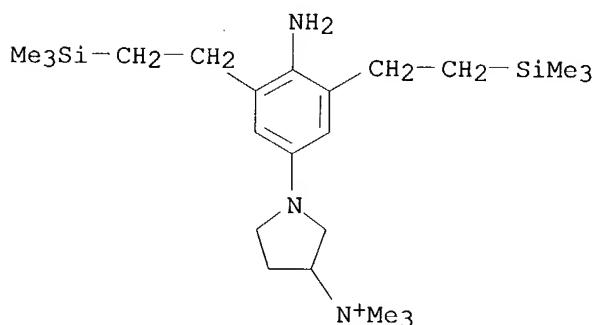
CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

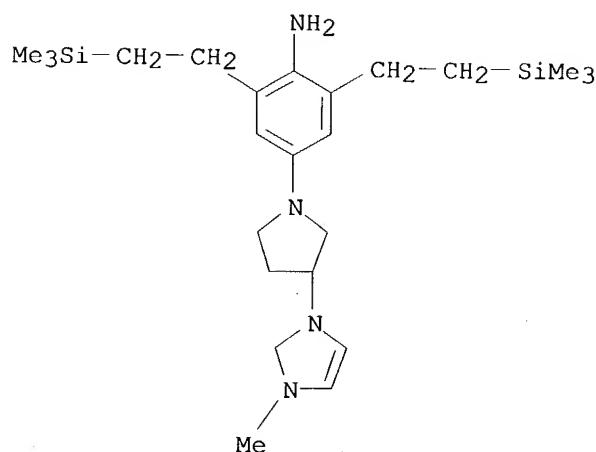
RN 701975-30-6 HCPLUS

CN 3-Pyrrolidinaminium, 1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



RN 701975-31-7 HCPLUS

CN 1H-Imidazolium, 1-[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

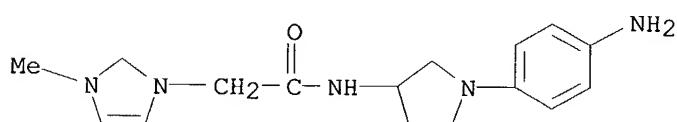


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-32-8 HCPLUS

CN 1H-Imidazolium, 1-[2-[(1-(4-aminophenyl)-3-pyrrolidinyl)amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

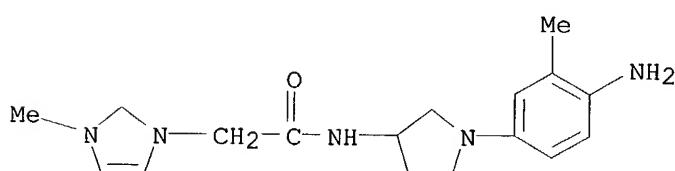


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-33-9 HCPLUS

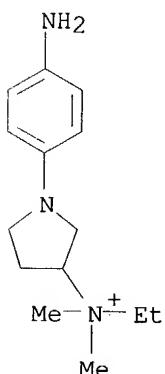
CN 1H-Imidazolium, 1-[2-[(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-34-0 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, chloride  
(9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

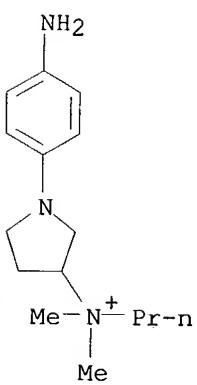
RN 701975-35-1 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, methyl sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 435275-63-1

CMF C15 H26 N3



CM 2

CRN 21228-90-0

CMF C H3 O4 S

Me-O-SO<sub>3</sub><sup>-</sup>

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L31 ANSWER 11 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2004:482163 HCAPLUS  
 DN 141:42536  
 TI Hair dyeing compositions comprising a tertiary p-phenylenediamine with a pyrrolidine ring and a monosaccharide or disaccharide  
 IN Cotteret, Jean; Lagrange, Alain  
 PA L'oreal, Fr.  
 SO Eur. Pat. Appl., 50 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA French  
 FAN.CNT 1
- | PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|---|------|----------|-----------------|----------|
| PI EP 1428508   | A1   | 20040616 | EP 2003-293133  | 20031212 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,<br>IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK<br>FR 2848442  | A1   | 20040618 | FR 2002-15775   | 20021213 |
| PRAI FR 2002-15775  | A    | 20021213 |                 |          |
| OS MARPAT 141:42536   |      |          |                 |          |
| AB Hair dyeing compns. comprise a tertiary p-phenylenediamine with a pyrrolidine ring and a monosaccharide or disaccharide. Thus, a composition contained oleic acid 9, polyglyceryl oleyl ether 12, diethylaminopropyl laurylaminosuccinate sodium salt 3, ethoxylated oleylamine 7, ethoxylated alkyl ether monoethanolamide 10, ammonium acetate 20, hexylene glycol 20, reducing agents 0.915, saccharose 1, sequestrants 1, resorcinol 0.085, [1-(4-aminophenyl)pyrrolidin-3-yl]trimethylammonium chloride 1.0, 2-methyl-5-aminophenol 0.5, perfume qs, ammonia 10.2, and water qs to 100 g. The above composition was mixed with 6% H2O2 and applied onto hair. |      |          |                 |          |
| IC ICM A61K007-13   |      |          |                 |          |
| CC 62-3 (Essential Oils and Cosmetics)  |      |          |                 |          |
| ST hair dye phenylenediamine pyrrolidine monosaccharide disaccharide  |      |          |                 |          |
| IT Phenols, biological studies  |      |          |                 |          |
| RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)<br>(amino; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)   |      |          |                 |          |
| IT Surfactants  |      |          |                 |          |
| (amphoteric; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)  |      |          |                 |          |
| IT Surfactants  |      |          |                 |          |
| (anionic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)   |      |          |                 |          |
| IT Polyelectrolytes   |      |          |                 |          |
| Surfactants   |      |          |                 |          |
| (cationic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)  |      |          |                 |          |
| IT Amines, biological studies   |      |          |                 |          |
| RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)<br>(diamines, aromatic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)  |      |          |                 |          |
| IT Dyes   |      |          |                 |          |
| (direct; hair dyeing compns. comprising phenylenediamine with   |      |          |                 |          |

pyrrolidine ring and monosaccharide or disaccharide)  
IT Hair preparations  
(dyes, oxidative; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)  
IT Hair preparations  
(dyes; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)  
IT Oxidizing agents  
Surfactants  
Thickening agents  
(hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)  
IT Bromates  
Disaccharides  
Ethers, biological studies  
Hexoses  
Monosaccharides  
Pentoses  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)  
IT Monosaccharides  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(heptoses; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)  
IT Monosaccharides  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(ketoses; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)  
IT Surfactants  
(nonionic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)  
IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(peroxy; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)  
IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(phenolic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)  
IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(salts, peroxy; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)  
IT Monosaccharides  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(tetroses; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)  
IT Surfactants  
(zwitterionic; hair dyeing compns. comprising phenylenediamine with pyrrolidine ring and monosaccharide or disaccharide)  
IT 50-69-1, Ribose 50-99-7, Glucose, biological studies 56-81-5,  
Glycerol, biological studies 57-48-7, Fructose, biological studies  
57-50-1, Saccharose, biological studies 57-55-6, Propylene glycol,  
biological studies 58-86-6, Xylose, biological studies 59-23-4,  
Galactose, biological studies 63-42-3, Lactose 64-17-5, Ethanol,  
biological studies 65-42-9, Lyxose 69-79-4, Maltose 87-79-6, Sorbose  
90-15-3,  $\alpha$ -Naphthol 95-55-6D, o-Aminophenol, derivs. 95-88-5,  
4-ChloroResorcinol 106-50-3D, p-Phenylenediamine, derivs. 108-45-2,

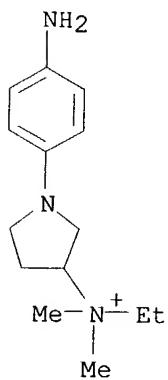
1,3-Diaminobenzene, biological studies 108-45-2D, m-Phenylenediamine, derivs. 108-46-3, Resorcinol, biological studies 108-46-3D, Resorcinol, derivs. 123-30-8D, p-Aminophenol, derivs. 124-43-6 147-81-9, Arabinose 492-61-5,  $\beta$ -D-Glucopyranose 492-62-6,  $\alpha$ -D-Glucopyranose 533-31-3, Sesamol 551-84-8, Xylulose 591-27-5D, m-Aminophenol, derivs. 608-25-3, 2-MethylResorcinol 1758-51-6, Erythrose 2152-76-3, Idose 2380-86-1, 6-Hydroxyindole 2380-94-1, 4-Hydroxyindole 3458-28-4, Mannose 5556-48-9, Ribulose 5987-68-8, Altrose 6038-51-3, Allose 7469-77-4, 2-Methyl-1-Naphthol 7556-37-8, 4-Hydroxy-N-methylindole 7722-84-1, Hydrogen peroxide, biological studies 9035-73-8, Oxidase 16867-03-1, 2-Amino-3-hydroxypyridine 17598-81-1, Tagatose 19163-87-2, Gulose 23140-52-5, Psicose 25711-72-2, 3-Ureido aniline 26021-57-8, 6-Hydroxybenzomorpholine 26455-21-0 29884-64-8, Threose 30077-17-9, Talose 40031-31-0, Erythrulose 70643-19-5 81329-90-0 81892-72-0 85679-78-3, 3,5-DiAmino-2,6-dimethoxypyridine 149330-25-6 402941-00-8  
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435275-69-7 435275-70-0 435275-72-2  
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701975-28-2 701975-29-3 701975-30-6  
701975-31-7 701975-32-8 701975-33-9  
701975-34-0 701975-35-1

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and monosaccharide or disaccharide)

IT 435275-61-9 435275-62-0 435275-65-3  
435275-66-4 435275-67-5 435275-68-6  
435275-69-7 435275-70-0 435275-72-2  
435275-73-3 435275-74-4 435275-82-4  
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701975-33-9 701975-34-0 701975-35-1

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising phenylenediamine with  
pyrrolidine ring and monosaccharide or disaccharide)

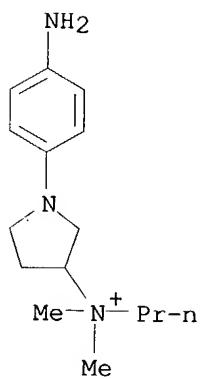
RN 435275-61-9 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I -

RN 435275-62-0 HCPLUS

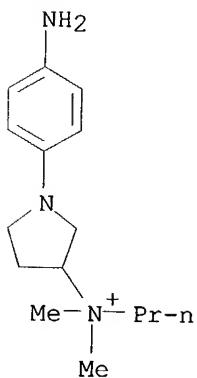
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, iodide  
(9CI) (CA INDEX NAME)



● I -

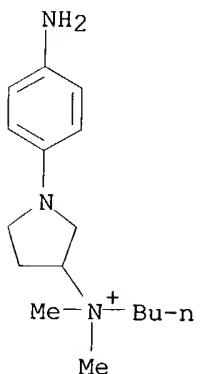
RN 435275-65-3 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, bromide  
(9CI) (CA INDEX NAME)



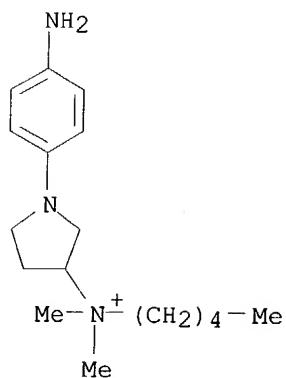
● Br<sup>-</sup>

RN 435275-66-4 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-butyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

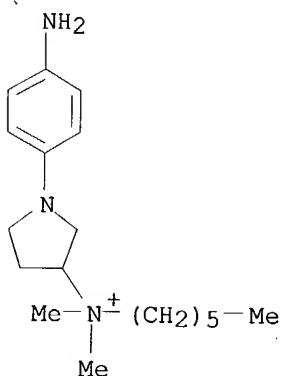
RN 435275-67-5 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-pentyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-68-6 HCAPLUS

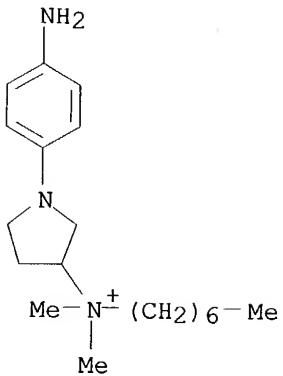
CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N-hexyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-69-7 HCAPLUS

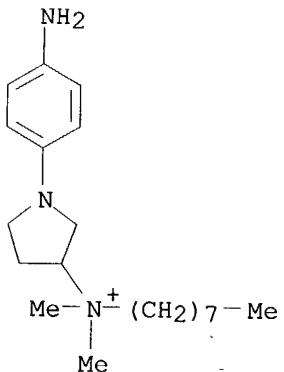
CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N-heptyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-70-0 HCPLUS

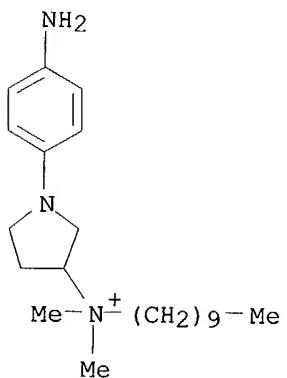
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-octyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-72-2 HCPLUS

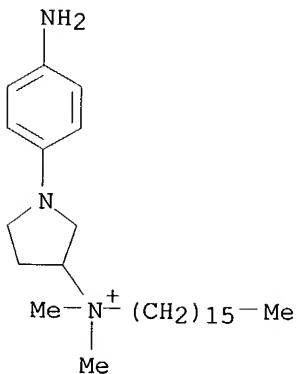
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-decyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-73-3 HCPLUS

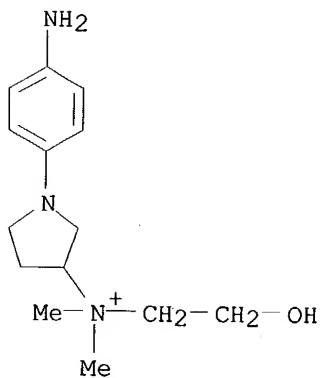
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexadecyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-74-4 HCPLUS

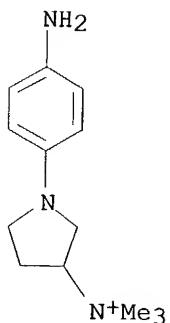
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-,  
iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-82-4 HCPLUS

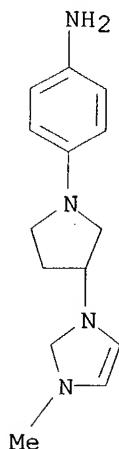
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N,N-trimethyl-, chloride (9CI)  
(CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-12-4 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-methyl-, chloride  
(9CI) (CA INDEX NAME)

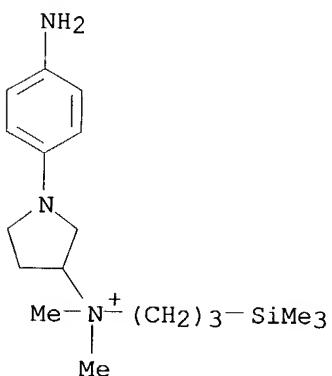


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 607355-13-5 HCPLUS

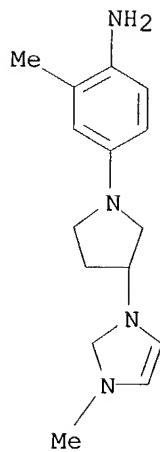
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-16-8 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

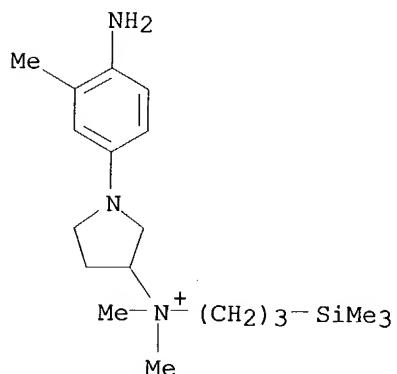


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 607355-17-9 HCPLUS

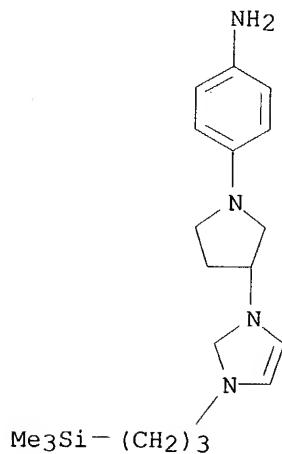
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-18-0 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)

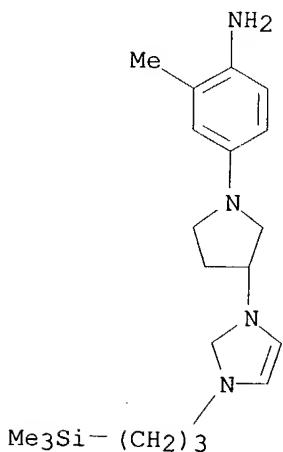


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 607355-19-1 HCAPLUS

CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)

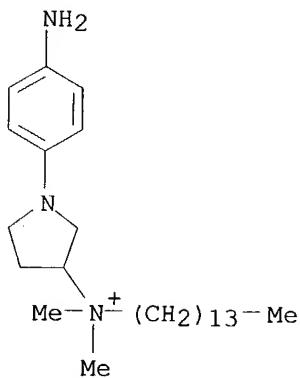


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-01-1 HCAPLUS

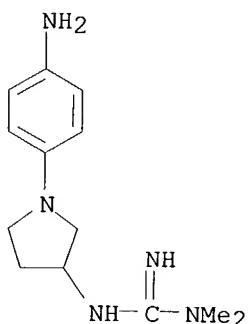
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-tetradecyl-, bromide (9CI) (CA INDEX NAME)



● Br<sup>-</sup>

RN 701975-04-4 HCPLUS

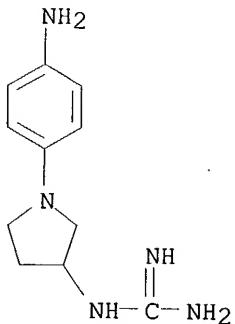
CN Guanidine, N'-(1-(4-aminophenyl)-3-pyrrolidinyl)-N,N-dimethyl-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 701975-07-7 HCPLUS

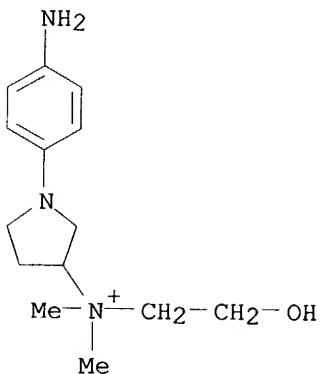
CN Guanidine, N-(1-(4-aminophenyl)-3-pyrrolidinyl)-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 701975-08-8 HCAPLUS

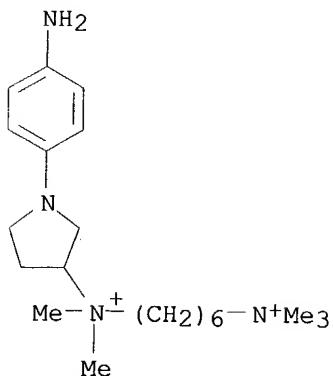
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl-

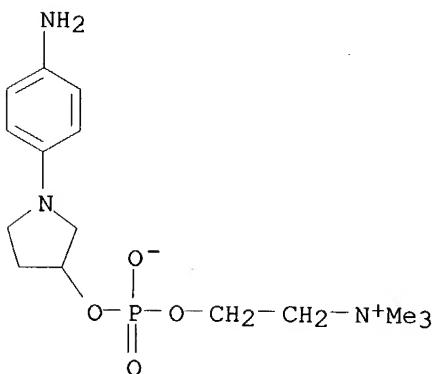
RN 701975-09-9 HCAPLUS

CN 1,6-Hexanediaminium, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N,N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)

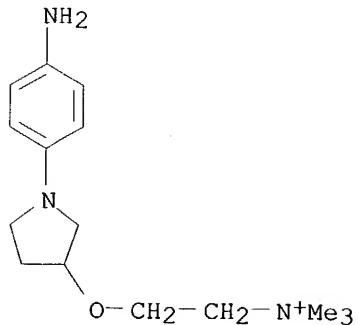


●2 Cl<sup>-</sup>

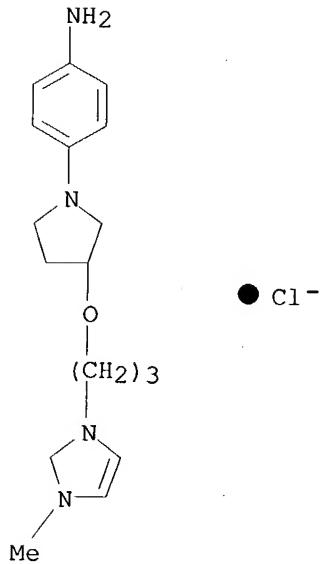
RN 701975-10-2 HCPLUS  
CN Ethanaminium, 2-[[[[1-(4-aminophenyl)-3-pyrrolidinyl]oxy]hydroxyphosphinyl]oxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)



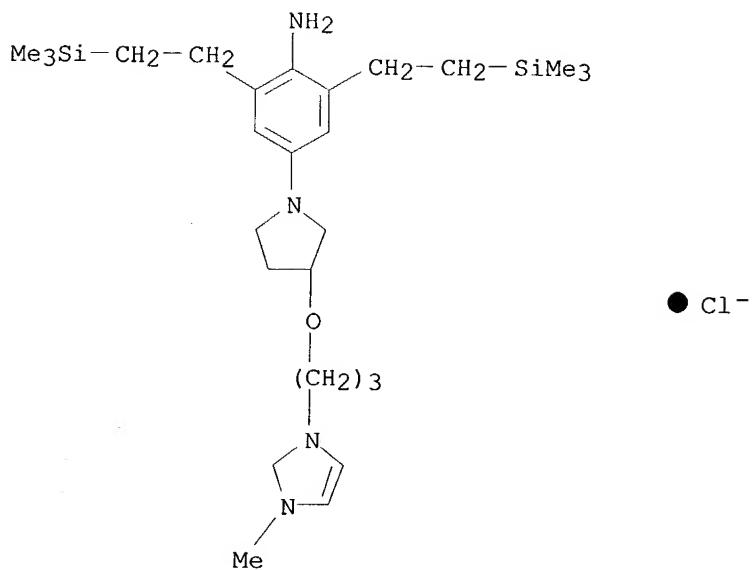
RN 701975-11-3 HCPLUS  
CN Ethanaminium, 2-[[(1-(4-aminophenyl)-3-pyrrolidinyl)oxy]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



RN 701975-13-5 HCPLUS  
CN 1H-Imidazolium, 1-[3-[[1-(4-aminophenyl)-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



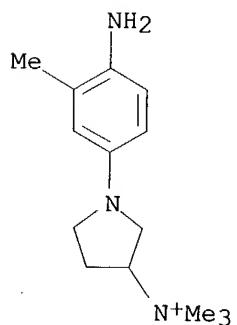
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-15-7 HCPLUS  
CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-16-8 HCPLUS

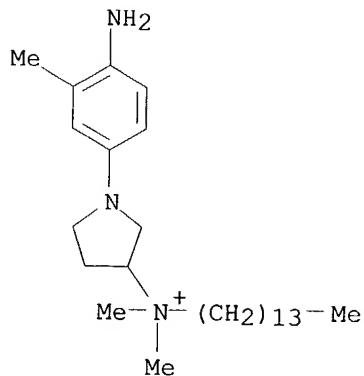
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N,N-trimethyl-, chloride  
(9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

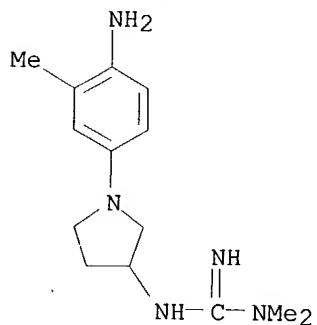
RN 701975-17-9 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-tetradecyl-, chloride (9CI) (CA INDEX NAME)



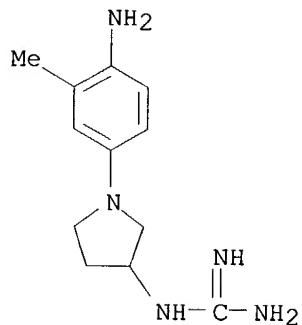
● Cl<sup>-</sup>

RN 701975-18-0 HCPLUS  
CN Guanidine, N'-(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)-N,N-dimethyl-,  
monohydrochloride (9CI) (CA INDEX NAME)



● HCl

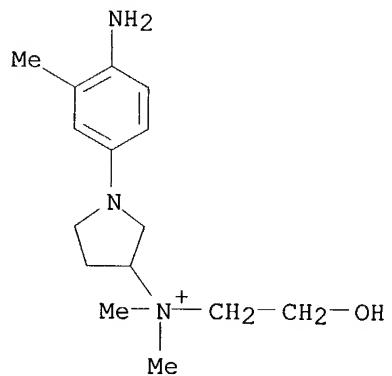
RN 701975-19-1 HCPLUS  
CN Guanidine, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-,  
monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 701975-20-4 HCAPLUS

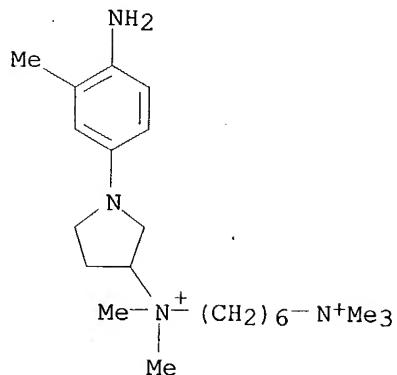
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl-

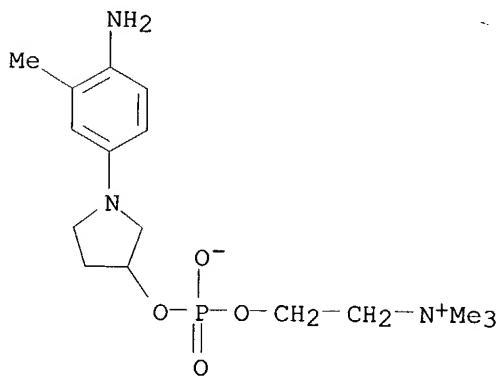
RN 701975-21-5 HCAPLUS

CN 1,6-Hexanediaminium, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-N,N,N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)

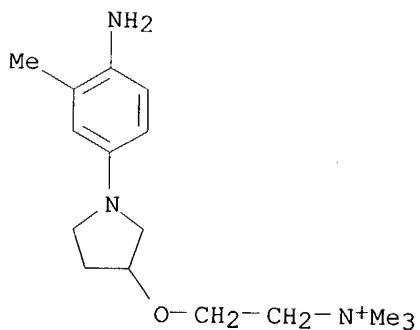


●2 Cl<sup>-</sup>

RN 701975-22-6 HCAPLUS  
CN Ethanaminium, 2-[{[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy}hydroxyphosphinyl]oxy]-N,N,N-trimethyl-, inner salt (9CI)  
(CA INDEX NAME)



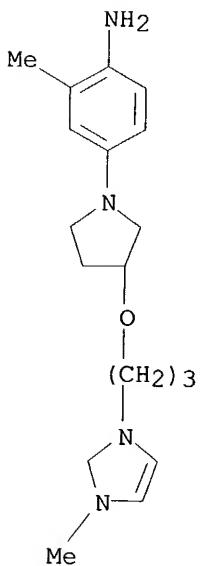
RN 701975-23-7 HCAPLUS  
CN Ethanaminium, 2-[{1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy}-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-25-9 HCAPLUS

CN 1H-Imidazolium, 1-[3-[(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

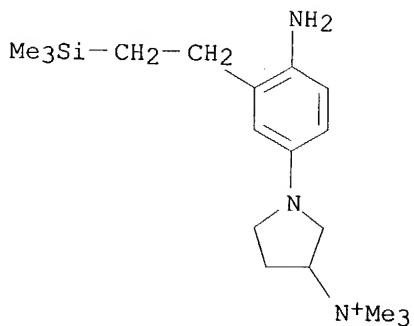


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-27-1 HCAPLUS

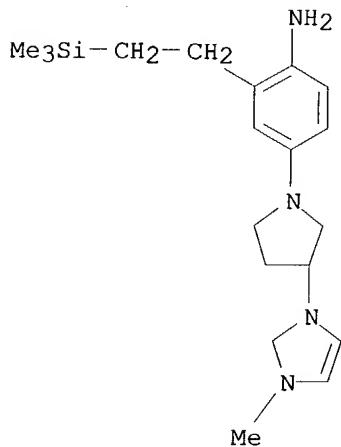
CN 3-Pyrrolidinaminium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-28-2 HCAPLUS

CN 1H-Imidazolium, 1-[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

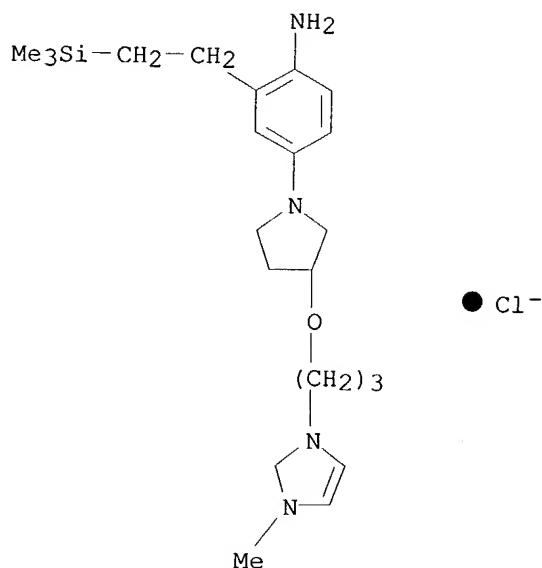


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-29-3 HCAPLUS

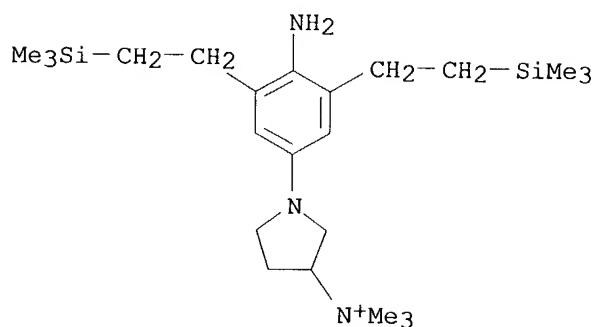
CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-30-6 HCPLUS

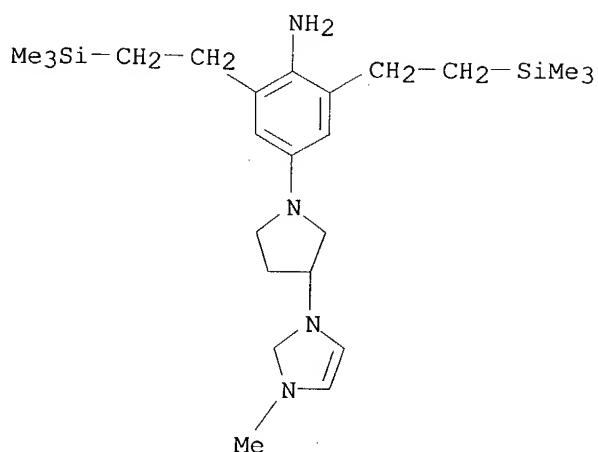
CN 3-Pyrrolidinaminium, 1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl-

RN 701975-31-7 HCPLUS

CN 1H-Imidazolium, 1-[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

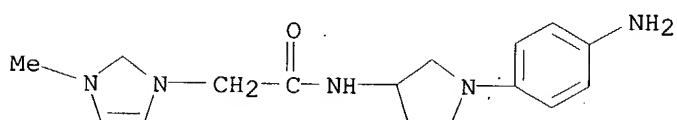


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE.

RN 701975-32-8 HCAPLUS

CN 1H-Imidazolium, 1-[2-[(1-(4-aminophenyl)-3-pyrrolidinyl)amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

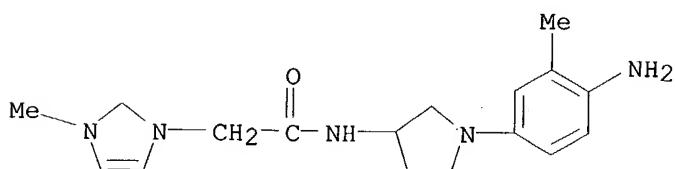


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-33-9 HCAPLUS

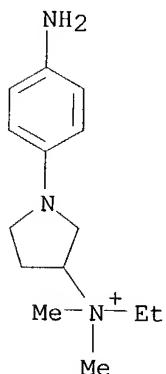
CN 1H-Imidazolium, 1-[2-[(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-34-0 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, chloride  
(9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

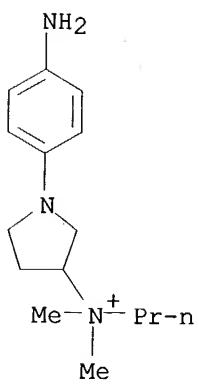
RN 701975-35-1 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, methyl sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 435275-63-1

CMF C15 H26 N3



CM 2

CRN 21228-90-0

CMF C H3 O4 S

Me—O—SO<sub>3</sub><sup>-</sup>

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L31 ANSWER 12 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2004:482162 HCAPLUS  
 DN 141:42535  
 TI Hair dyeing composition comprising a cationic p-phenylenediamine with a pyrrolidine ring and a dicarboxylic acid  
 IN Cotteret, Jean; Lagrange, Alain  
 PA L'oreal, Fr.  
 SO Eur. Pat. Appl., 50 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA French  
 FAN.CNT 1
- | PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE     |
|--|------|----------|-----------------|----------|
| PI EP 1428507  | A1   | 20040616 | EP 2003-293132  | 20031212 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,<br>IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK |      |          |                 |          |
| FR 2848435   | A1   | 20040618 | FR 2002-15768   | 20021213 |
| US 2004216244  | A1   | 20041104 | US 2003-735273  | 20031212 |
| PRAI FR 2002-15768   | A    | 20021213 |                 |          |
| US 2003-450344P  | P    | 20030228 |                 |          |
- OS MARPAT 141:42535  
 AB Hair dyeing compns. comprise a cationic p-phenylenediamine with a pyrrolidine ring and a dicarboxylic acid. Thus, a composition contained oleic acid 9, polyglyceryl oleyl ether 12, diethylaminopropyl laurylaminosuccinamate sodium salt 3, ethoxylated oleylamine 7, ethoxylated alkyl ether monoethanolamide 10, ammonium acetate 20, propylene glycol 20, dilinoleic acid 1.5, reducing agents 0.915, sequestrants 1, resorcinol 0.085, [1-(4-aminophenyl)pyrrolidin-3-yl]trimethylammonium chloride 1.0, 2-methyl-5-aminophenol 0.5, perfume qs, ammonia 10.2, and water qs to 100 g. The above composition was mixed with 6% H2O2 and applied onto hair.  
 IC ICM A61K007-13  
 CC 62-3 (Essential Oils and Cosmetics)  
 ST phenylenediamine pyrrolidine dicarboxylic acid hair dye  
 IT Phenols, biological studies  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (amino; hair dyeing composition comprising cationic phenylenediamine with pyrrolidine ring and dicarboxylic acid)  
 IT Surfactants  
 (amphoteric; hair dyeing composition comprising cationic phenylenediamine with pyrrolidine ring and dicarboxylic acid)  
 IT Surfactants  
 (anionic; hair dyeing composition comprising cationic phenylenediamine with pyrrolidine ring and dicarboxylic acid)  
 IT Polyelectrolytes  
 Surfactants  
 (cationic; hair dyeing composition comprising cationic phenylenediamine with pyrrolidine ring and dicarboxylic acid)  
 IT Amines, biological studies  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (diamines, aromatic; hair dyeing composition comprising cationic

phenylenediamine with pyrrolidine ring and dicarboxylic acid)  
IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(dicarboxylic, salts; hair dyeing composition comprising cationic  
phenylenediamine with pyrrolidine ring and dicarboxylic acid)  
IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(dicarboxylic; hair dyeing composition comprising cationic phenylenediamine  
with pyrrolidine ring and dicarboxylic acid)  
IT Hair preparations  
(dyes, oxidative; hair dyeing composition comprising cationic  
phenylenediamine with pyrrolidine ring and dicarboxylic acid)  
IT Hair preparations  
(dyes; hair dyeing composition comprising cationic phenylenediamine with  
pyrrolidine ring and dicarboxylic acid)  
IT Oxidizing agents  
Surfactants  
Thickening agents  
(hair dyeing composition comprising cationic phenylenediamine with  
pyrrolidine ring and dicarboxylic acid)  
IT Bromates  
Ethers, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing composition comprising cationic phenylenediamine with  
pyrrolidine ring and dicarboxylic acid)  
IT Surfactants  
(nonionic; hair dyeing composition comprising cationic phenylenediamine with  
pyrrolidine ring and dicarboxylic acid)  
IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(peroxy; hair dyeing composition comprising cationic phenylenediamine with  
pyrrolidine ring and dicarboxylic acid)  
IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(phenolic; hair dyeing composition comprising cationic phenylenediamine with  
pyrrolidine ring and dicarboxylic acid)  
IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(salts, peroxyl; hair dyeing composition comprising cationic phenylenediamine  
with pyrrolidine ring and dicarboxylic acid)  
IT Surfactants  
(zwitterionic; hair dyeing composition comprising cationic phenylenediamine  
with pyrrolidine ring and dicarboxylic acid)  
IT 56-81-5, Glycerol, biological studies 57-55-6, Propylene glycol,  
biological studies 64-17-5, Ethanol, biological studies 90-15-3,  
 $\alpha$ -Naphthol 95-55-6D, o-Aminophenol, derivs. 95-88-5,  
4-ChloroResorcinol 106-50-3D, p-Phenylenediamine, derivs. 108-45-2,  
1,3-Diaminobenzene, biological studies 108-45-2D, m-Phenylenediamine,  
derivs. 108-46-3, Resorcinol, biological studies 108-46-3D,  
Resorcinol, derivs. 110-15-6, Succinic acid, biological studies  
110-16-7, Maleic acid, biological studies 123-30-8D, p-Aminophenol,  
derivs. 124-04-9, Adipic acid, biological studies 124-43-6 141-82-2,  
Malonic acid, biological studies 533-31-3, Sesamol 591-27-5D,  
m-Aminophenol, derivs. 608-25-3, 2-MethylResorcinol 2380-86-1,  
6-Hydroxyindole 2380-94-1, 4-Hydroxyindole 6144-28-1, Dilinoleic acid  
6915-15-7, Malic acid 7469-77-4, 2-Methyl-1-Naphthol 7556-37-8,  
4-Hydroxy-N-methylindole 7722-84-1, Hydrogen peroxide, biological  
studies 9035-73-8, Oxidase 16867-03-1, 2-Amino-3-hydroxypyridine  
25711-72-2, 3-Ureido aniline 26021-57-8, 6-Hydroxybenzomorpholine

26455-21-0 70643-19-5 81329-90-0 81892-72-0 85679-78-3,  
3,5-DiAmino-2,6-dimethoxypyridine 149330-25-6 402941-00-8  
435275-61-9 435275-62-0 435275-65-3  
435275-66-4 435275-67-5 435275-68-6  
435275-69-7 435275-70-0 435275-72-2  
435275-73-3 435275-74-4 435275-82-4  
607355-12-4 607355-13-5 607355-16-8  
607355-17-9 607355-18-0 607355-19-1  
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701975-07-7 701975-08-8 701975-09-9  
701975-10-2 701975-11-3 701975-12-4  
701975-13-5 701975-14-6 701975-15-7  
701975-16-8 701975-17-9 701975-18-0  
701975-19-1 701975-20-4 701975-21-5  
701975-22-6 701975-23-7 701975-24-8  
701975-25-9 701975-26-0 701975-27-1  
701975-28-2 701975-29-3 701975-30-6  
701975-31-7 701975-32-8 701975-33-9  
701975-34-0 701975-35-1

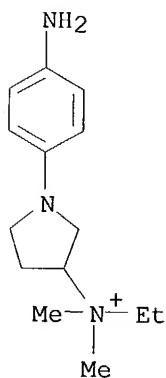
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing composition comprising cationic phenylenediamine with  
pyrrolidine ring and dicarboxylic acid)

IT 435275-61-9 435275-62-0 435275-65-3  
435275-66-4 435275-67-5 435275-68-6  
435275-69-7 435275-70-0 435275-72-2  
435275-73-3 435275-74-4 435275-82-4  
607355-12-4 607355-13-5 607355-16-8  
607355-17-9 607355-18-0 607355-19-1  
701975-01-1 701975-04-4 701975-07-7  
701975-08-8 701975-09-9 701975-10-2  
701975-11-3 701975-13-5 701975-15-7  
701975-16-8 701975-17-9 701975-18-0  
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701975-22-6 701975-23-7 701975-25-9  
701975-27-1 701975-28-2 701975-29-3  
701975-30-6 701975-31-7 701975-32-8  
701975-33-9 701975-34-0 701975-35-1

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing composition comprising cationic phenylenediamine with  
pyrrolidine ring and dicarboxylic acid)

RN 435275-61-9 HCPLUS

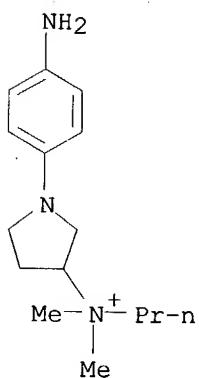
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-62-0 HCPLUS

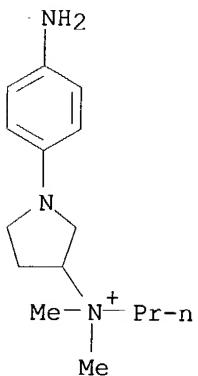
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-65-3 HCPLUS

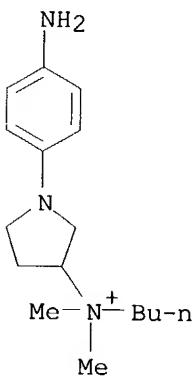
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, bromide  
(9CI) (CA INDEX NAME)



● Br<sup>-</sup>

RN 435275-66-4 HCPLUS

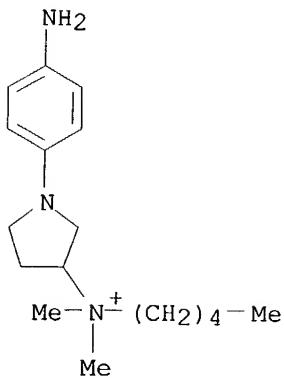
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-butyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-67-5 HCPLUS

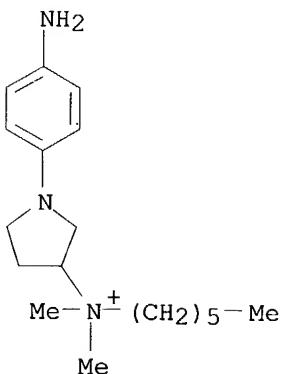
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-pentyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-68-6 HCPLUS

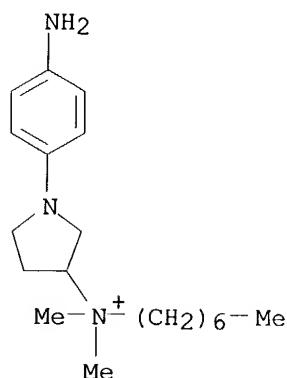
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

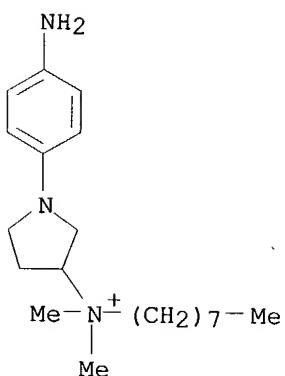
RN 435275-69-7 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-heptyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



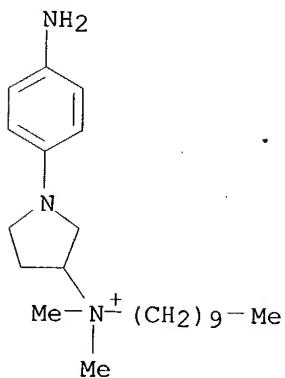
• I -

RN 435275-70-0 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-octyl-, iodide (9CI)  
(CA INDEX NAME)



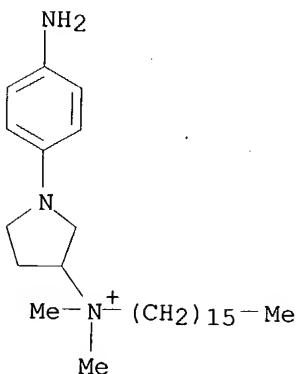
—

RN 435275-72-2 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-decyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



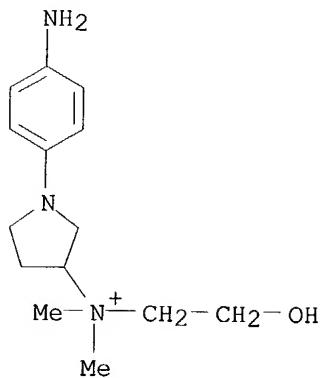
● I<sup>-</sup>

RN 435275-73-3 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexadecyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

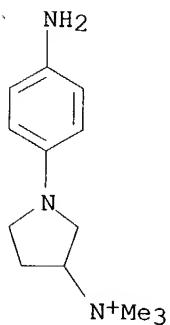
RN 435275-74-4 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-82-4 HCPLUS

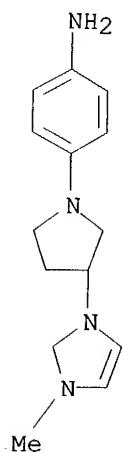
CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N,N,N-trimethyl-, chloride (9CI)  
(CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-12-4 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-methyl-, chloride  
(9CI) (CA INDEX NAME)

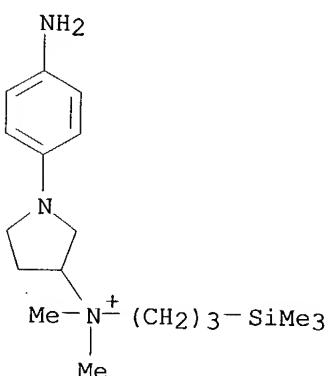


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 607355-13-5 HCPLUS

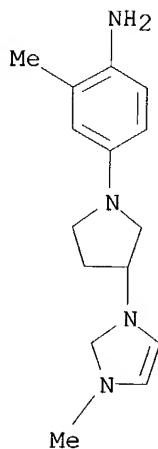
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-16-8 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

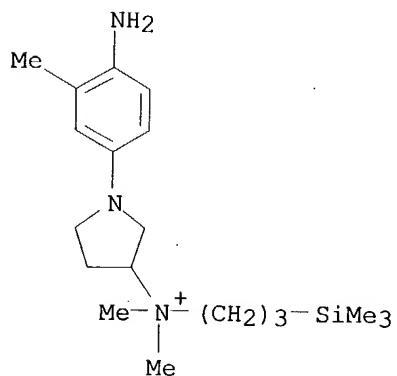


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 607355-17-9 HCPLUS

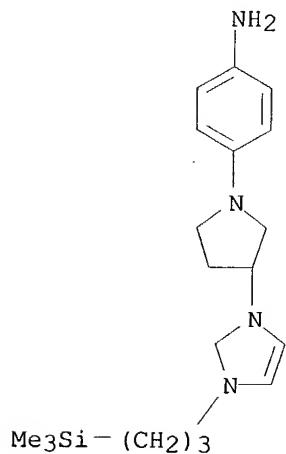
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-18-0 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)

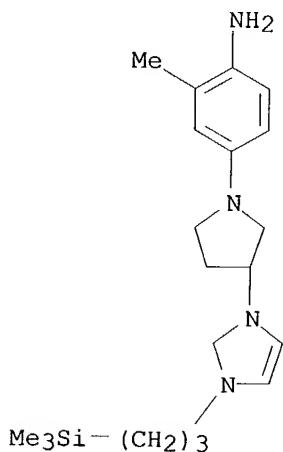


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 607355-19-1 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)

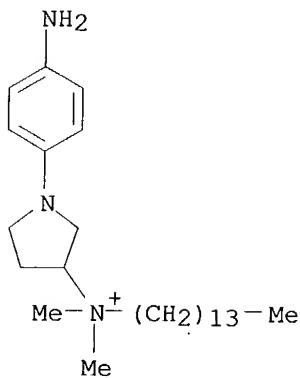


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-01-1 HCPLUS

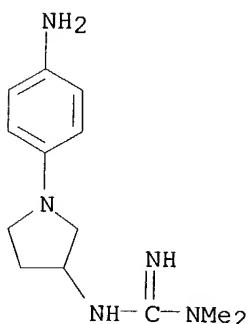
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-tetradecyl-, bromide (9CI) (CA INDEX NAME)



●  $\text{Br}^-$

RN 701975-04-4 HCPLUS

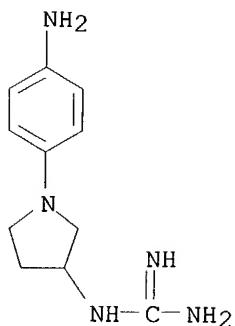
CN Guanidine, N'-[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N-dimethyl-,  
monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 701975-07-7 HCPLUS

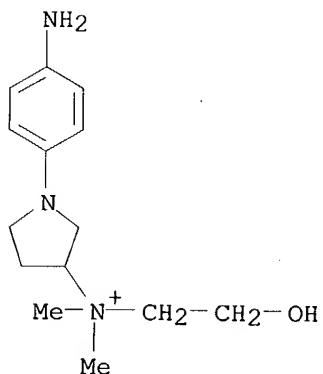
CN Guanidine, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-, monohydrochloride (9CI)  
(CA INDEX NAME)



● HCl

RN 701975-08-8 HCAPLUS

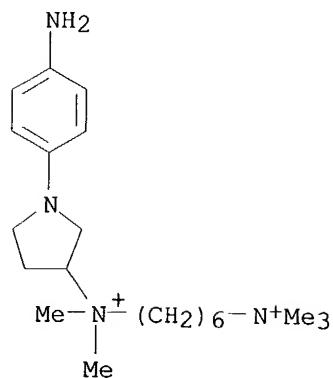
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

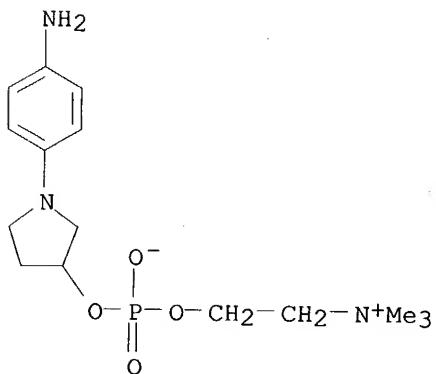
RN 701975-09-9 HCAPLUS

CN 1,6-Hexamethylenediaminium, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N,N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)

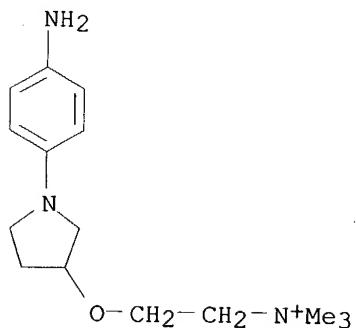


●2 Cl<sup>-</sup>

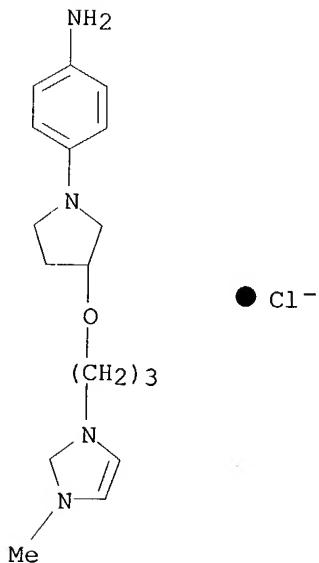
RN 701975-10-2 HCPLUS  
CN Ethanaminium, 2-[{[1-(4-aminophenyl)-3-pyrrolidinyl]oxy}hydroxypyrophosphinyl oxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)



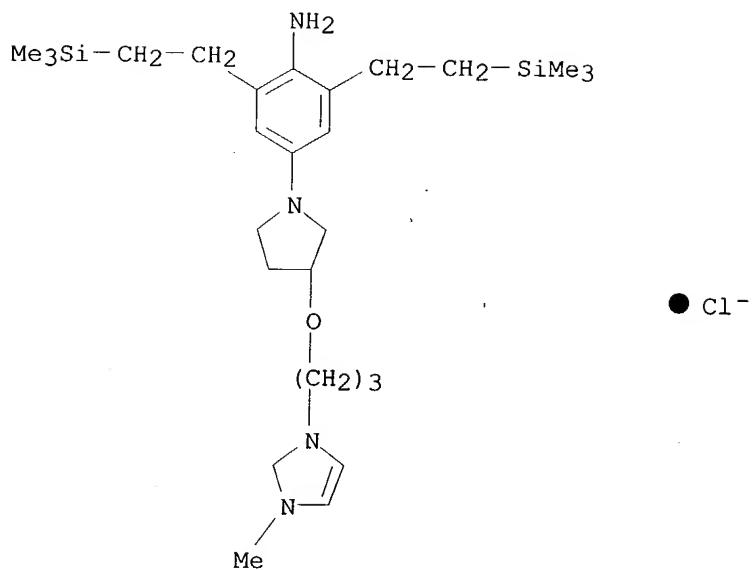
RN 701975-11-3 HCPLUS  
CN Ethanaminium, 2-[{[1-(4-aminophenyl)-3-pyrrolidinyl]oxy}-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



RN 701975-13-5 HCPLUS  
CN 1H-Imidazolium, 1-[3-[(1-(4-aminophenyl)-3-pyrrolidinyl)oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



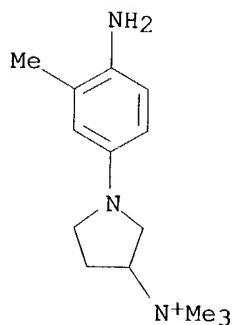
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-15-7 HCPLUS  
CN 1H-Imidazolium, 1-[3-[(1-[4-amino-3,5-bis(trimethylsilyl)ethyl]phenyl)-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-16-8 HCPLUS

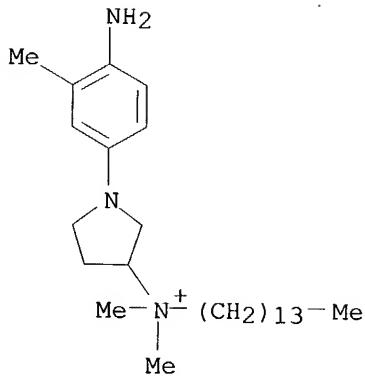
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N,N-trimethyl-, chloride  
(9CI) (CA INDEX NAME)



●  $\text{Cl}^-$

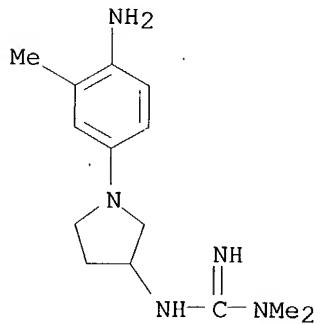
RN 701975-17-9 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-tetradecyl-, chloride (9CI) (CA INDEX NAME)



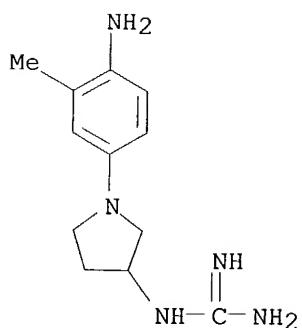
● Cl<sup>-</sup>

RN 701975-18-0 HCPLUS  
CN Guanidine, N'-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-N,N-dimethyl-,  
monohydrochloride (9CI) (CA INDEX NAME)



● HCl

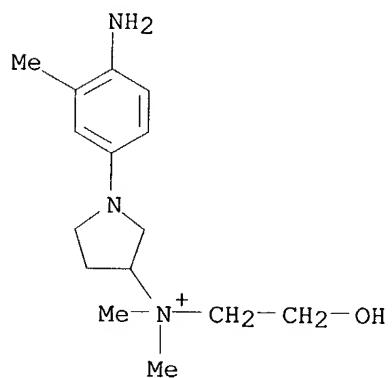
RN 701975-19-1 HCPLUS  
CN Guanidine, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-,  
monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 701975-20-4 HCPLUS

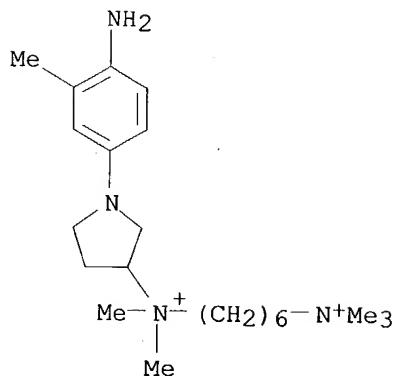
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-21-5 HCPLUS

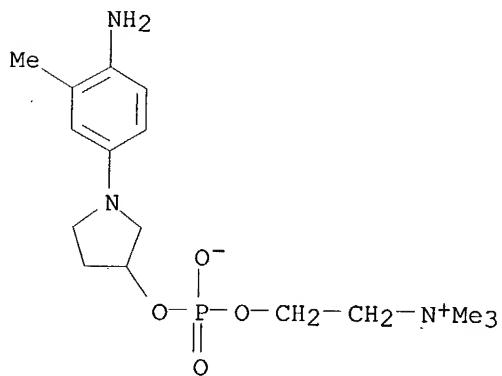
CN 1,6-Hexanediaminium, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-N,N,N',N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)



●2 Cl<sup>-</sup>

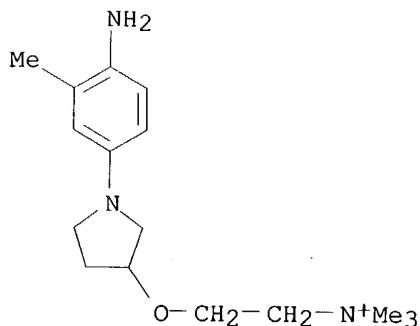
RN 701975-22-6 HCAPLUS

CN Ethanaminium, 2-[{[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy}hydroxyphosphinyl]oxy]-N,N,N-trimethyl-, inner salt (9CI)  
(CA INDEX NAME)

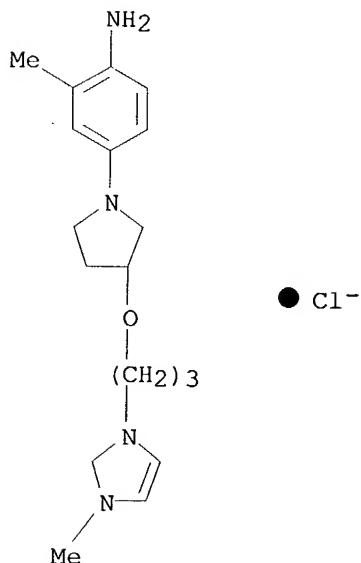


RN 701975-23-7 HCAPLUS

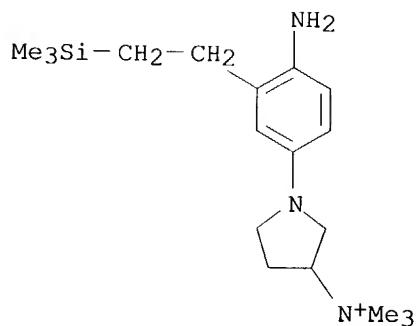
CN Ethanaminium, 2-[{[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy}-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



RN 701975-25-9 HCPLUS  
CN 1H-Imidazolium, 1-[3-[(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



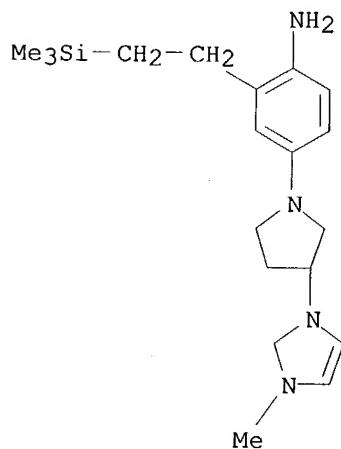
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-27-1 HCPLUS  
CN 3-Pyrrolidinamininium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-28-2 HCAPLUS

CN 1H-Imidazolium, 1-[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

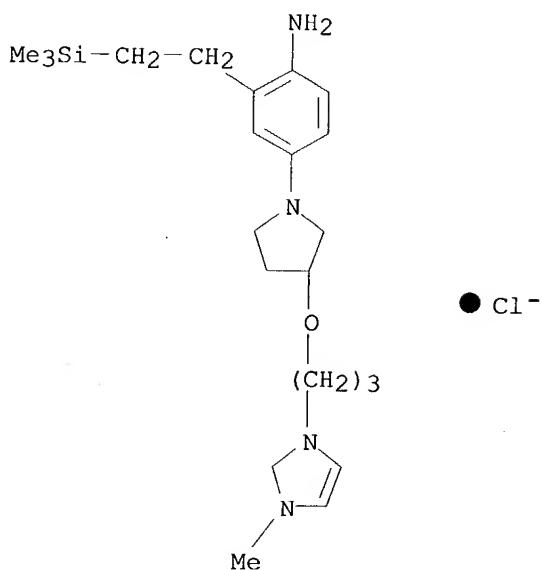


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-29-3 HCAPLUS

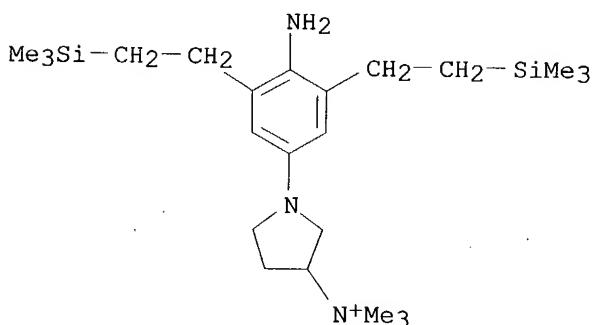
CN 1H-Imidazolium, 1-[3-[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-30-6 HCPLUS

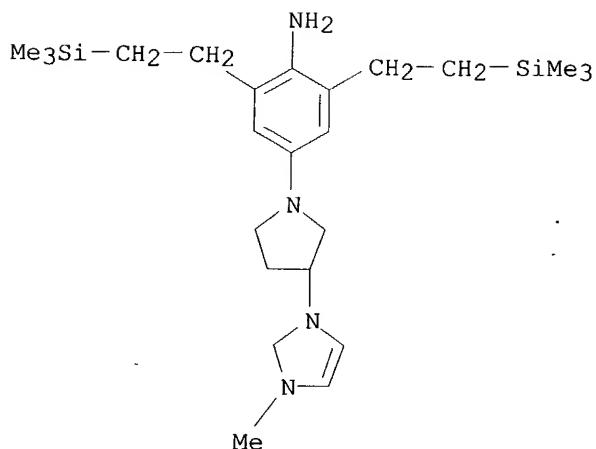
CN 3-Pyrrolidinaminium, 1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl-

RN 701975-31-7 HCPLUS

CN 1H-Imidazolium, 1-[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

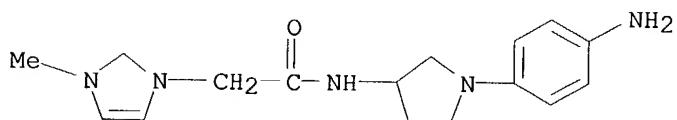


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-32-8 HCPLUS

CN 1H-Imidazolium, 1-[2-[[1-(4-aminophenyl)-3-pyrrolidinyl]amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

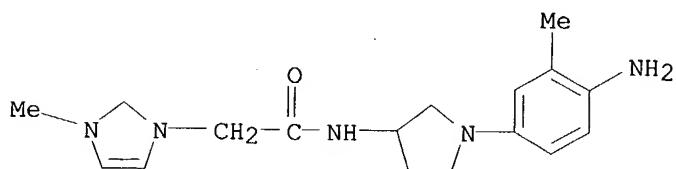


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-33-9 HCPLUS

CN 1H-Imidazolium, 1-[2-[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

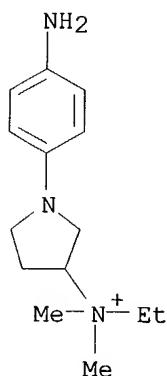


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-34-0 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, chloride  
(9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

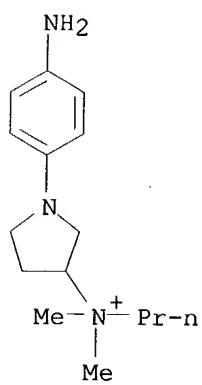
RN 701975-35-1 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, methyl sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 435275-63-1

CMF C15 H26 N3



CM 2

CRN 21228-90-0

CMF C H3 O4 S

Me—O—SO<sub>3</sub><sup>-</sup>

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L31 ANSWER 13 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2004:482161 HCAPLUS

DN 141:42534

TI Hair dyeing composition comprising p-phenylenediamine with a pyrrolidine ring and a polymer

IN Cotteret, Jean; Lagrange, Alain

PA L'oreal, Fr.

SO Eur. Pat. Appl., 53 pp.

CODEN: EPXXDW

DT Patent

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1428506	A1	20040616	EP 2003-293131	20031212
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK FR 2848433	A1	20040618	FR 2002-15766	20021213
	US 2004216246	A1	20041104	US 2003-735524	20031212
PRAI	FR 2002-15766	A	20021213		
	US 2003-450338P	P	20030228		

AB Hair dyeing composition comprise p-phenylenediamine with a cationic pyrrolidine ring and a polymer with fatty chains. Thus, a composition contained oleic acid 9, polyglyceryl oleyl ether 12, diethylaminopropyl laurylaminosuccinamate sodium salt 3, ethoxylated oleylamine 7, ethoxylated alkyl ether monoethanolamide 10, ammonium acetate 20, hexylene glycol 20, reducing agents 0.915, sequestrants 1, [1-(4-aminophenyl)pyrrolidin-3-yl]trimethylammonium chloride 0.8, ACP-1234 0.2, 2-methyl-5-aminophenol 0.5, perfume qs, ammonia 10.2, and water qs to 100 g. The above composition was mixed with 6% H2O2 and applied onto hair.

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

ST phenylenediamine pyrrolidine polymer hair dye

IT Phenols, biological studies

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (amino; hair dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)

IT Surfactants

(amphoteric; hair dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)

IT Polyelectrolytes

Surfactants  
 (anionic; hair dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)

IT Polyelectrolytes

Surfactants  
 (cationic; hair dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)

IT Amines, biological studies

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

(diamines, aromatic; hair dyeing composition comprising phenylenediamine with

with

pyrrolidine ring and polymer)

IT Hair preparations  
(dyes, oxidative; hair dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)

IT Hair preparations  
(dyes; hair dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)

IT Oxidizing agents  
Surfactants  
Thickening agents  
(hair dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)

IT Bromates  
Ethers, biological studies  
Polyurethanes, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)

IT Surfactants  
(nonionic; hair dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)

IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(peroxy; hair dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)

IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(phenolic; hair dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)

IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(salts, peroxy; hair dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)

IT Surfactants  
(zwitterionic; hair dyeing composition comprising phenylenediamine with pyrrolidine ring and polymer)

IT 56-81-5, Glycerol, biological studies 57-55-6, Propylene glycol, biological studies 64-17-5, Ethanol, biological studies 79-10-7D, Acrylic acid, esters, polymers 79-41-4D, Methacrylic acid, esters, polymers 90-15-3,  $\alpha$ -Naphthol 95-55-6D, o-Aminophenol, derivs. 95-88-5, 4-ChloroResorcinol 106-50-3D, p-Phenylenediamine, derivs. 108-45-2, 1,3-Diaminobenzene, biological studies 108-45-2D, m-Phenylenediamine, derivs. 108-46-3, Resorcinol, biological studies 108-46-3D, Resorcinol, derivs. 123-30-8D, p-Aminophenol, derivs. 124-43-6 533-31-3, Sesamol 591-27-5D, m-Aminophenol, derivs. 608-25-3, 2-MethylResorcinol 2380-86-1, 6-Hydroxyindole 2380-94-1, 4-Hydroxyindole 7469-77-4, 2-Methyl-1-Naphthol 7556-37-8, 4-Hydroxy-N-methylindole 7722-84-1, Hydrogen peroxide, biological studies 9003-39-8D, Polyvinylpyrrolidone, cationic derivs. 9004-34-6D, Cellulose, cationic derivs. 9035-73-8, Oxidase 16867-03-1, 2-Amino-3-hydroxypyridine 25711-72-2, 3-Ureido aniline 26021-57-8, 6-Hydroxybenzomorpholine 26455-21-0 28062-60-4, Acrylic acid-lauryl methacrylate copolymer 70643-19-5 81329-90-0 81892-72-0 85679-78-3, 3,5-DiAmino-2,6-dimethoxypyridine 138789-85-2, Pemulen TR1 146701-61-3, Carbopol 1382 149330-25-6 306769-69-7 306769-73-3 402941-00-8 435275-61-9 435275-62-0 435275-65-3 435275-66-4 435275-67-5 435275-68-6 435275-69-7 435275-70-0 435275-72-2 435275-73-3 435275-74-4

435275-82-4 607355-12-4 607355-13-5  
607355-16-8 607355-17-9 607355-18-0  
607355-19-1 607355-20-4 607355-21-5 701975-01-1  
701975-04-4 701975-07-7 701975-08-8  
701975-09-9 701975-10-2 701975-11-3  
701975-12-4 701975-13-5 701975-14-6 701975-15-7  
701975-16-8 701975-17-9 701975-18-0  
701975-19-1 701975-20-4 701975-21-5  
701975-22-6 701975-23-7 701975-24-8  
701975-25-9 701975-26-0 701975-27-1  
701975-28-2 701975-29-3 701975-30-6  
701975-31-7 701975-32-8 701975-33-9  
701975-34-0 701975-35-1

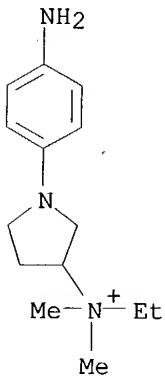
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing composition comprising phenylenediamine with  
pyrrolidine ring and polymer)

IT 435275-61-9 435275-62-0 435275-65-3  
435275-66-4 435275-67-5 435275-68-6  
435275-69-7 435275-70-0 435275-72-2  
435275-73-3 435275-74-4 435275-82-4  
607355-12-4 607355-13-5 607355-16-8  
607355-17-9 607355-18-0 607355-19-1  
701975-01-1 701975-04-4 701975-07-7  
701975-08-8 701975-09-9 701975-10-2  
701975-11-3 701975-13-5 701975-15-7  
701975-16-8 701975-17-9 701975-18-0  
701975-19-1 701975-20-4 701975-21-5  
701975-22-6 701975-23-7 701975-25-9  
701975-27-1 701975-28-2 701975-29-3  
701975-30-6 701975-31-7 701975-32-8  
701975-33-9 701975-34-0 701975-35-1

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing composition comprising phenylenediamine with  
pyrrolidine ring and polymer)

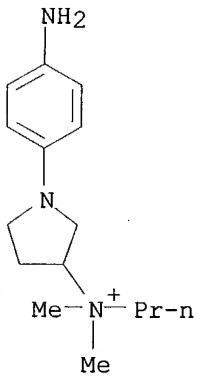
RN 435275-61-9 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



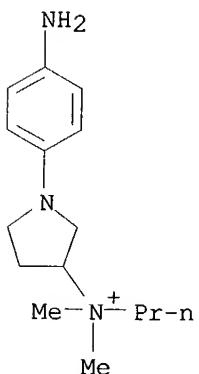
● I-

RN 435275-62-0 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, iodide  
(9CI) (CA INDEX NAME)



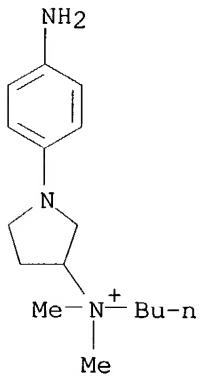
● I<sup>-</sup>

RN 435275-65-3 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, bromide  
(9CI) (CA INDEX NAME)



● Br<sup>-</sup>

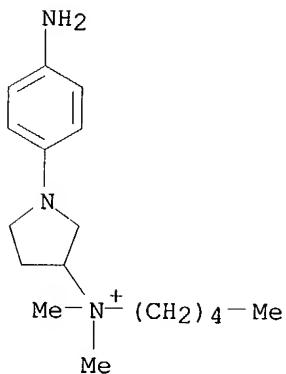
RN 435275-66-4 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-butyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-67-5 HCPLUS

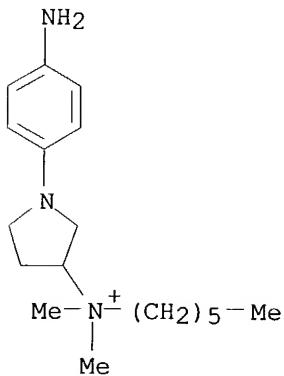
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-pentyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-68-6 HCPLUS

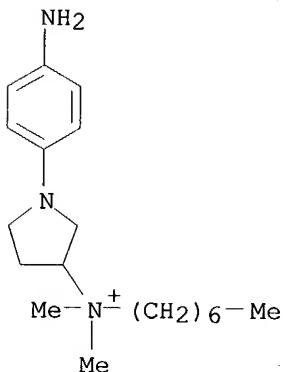
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-69-7 HCPLUS

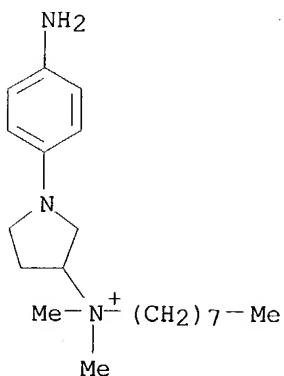
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-heptyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-70-0 HCPLUS

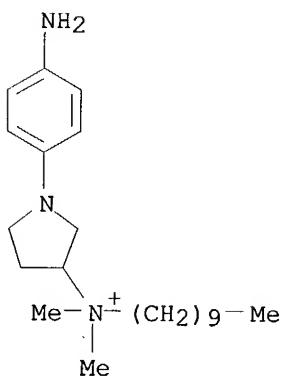
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-octyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-72-2 HCPLUS

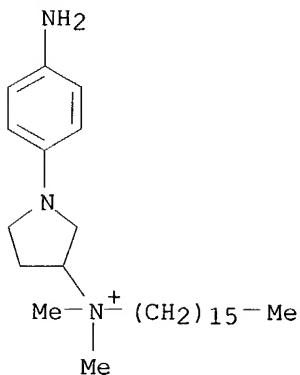
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-decyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

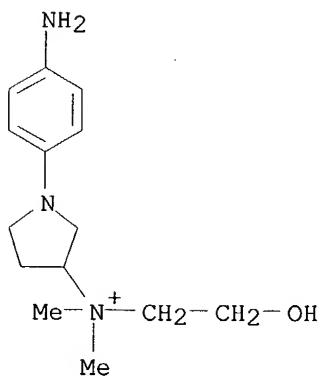
RN 435275-73-3 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexadecyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



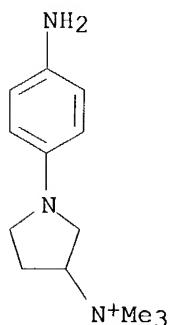
● I<sup>-</sup>

RN 435275-74-4 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-,  
iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

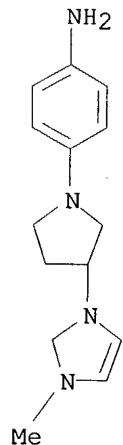
RN 435275-82-4 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N,N-trimethyl-, chloride (9CI)  
(CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-12-4 HCAPLUS

CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-methyl-, chloride  
(9CI) (CA INDEX NAME)

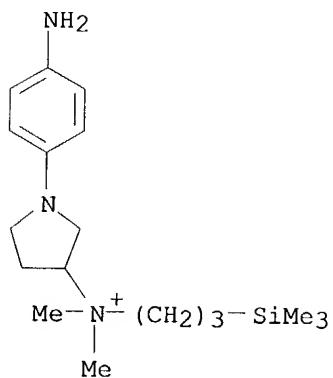


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 607355-13-5 HCAPLUS

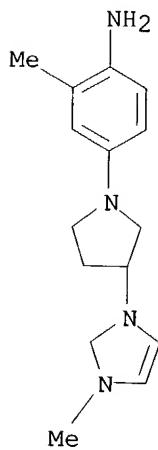
CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-16-8 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

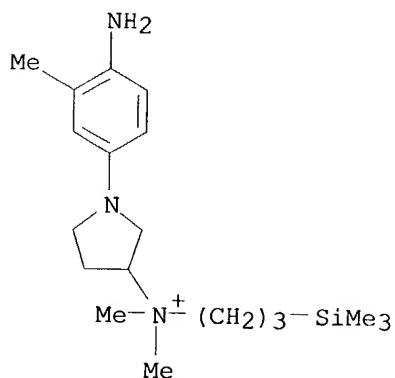


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

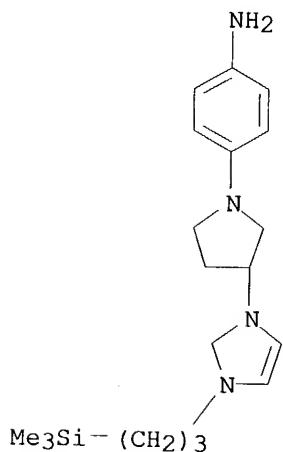
RN 607355-17-9 HCPLUS

CN 3-Pyrrolidinamininium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



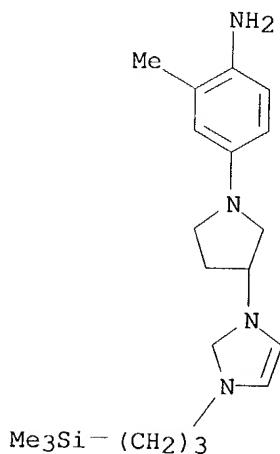
● Cl<sup>-</sup>

RN 607355-18-0 HCPLUS  
CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



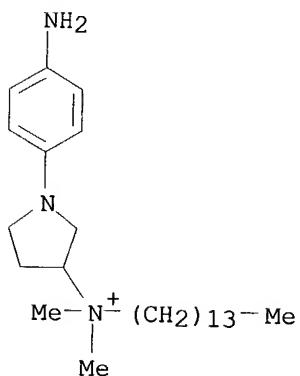
● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 607355-19-1 HCPLUS  
CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



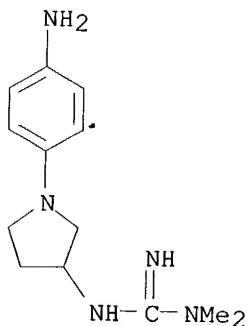
● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-01-1 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-tetradecyl-, bromide  
(9CI) (CA INDEX NAME)



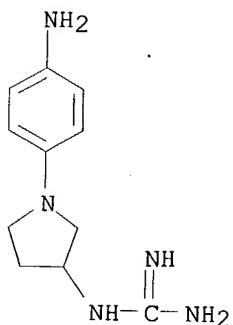
● Br<sup>-</sup>

RN 701975-04-4 HCAPLUS  
CN Guanidine, N'-[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N-dimethyl-,  
monohydrochloride (9CI) (CA INDEX NAME)



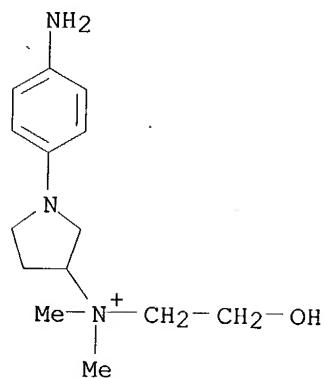
● HCl

RN 701975-07-7 HCPLUS  
CN Guanidine, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-, monohydrochloride (9CI)  
(CA INDEX NAME)



● HCl

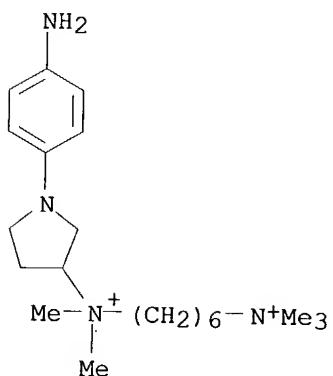
RN 701975-08-8 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-,  
chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-09-9 HCPLUS

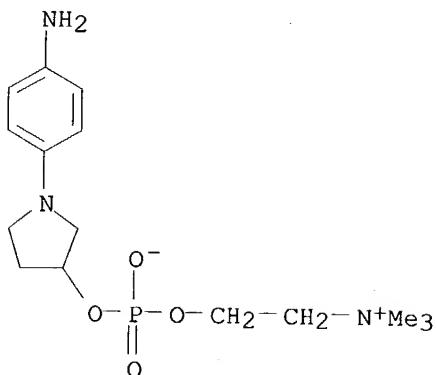
CN 1,6-Hexanediaminium, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N,N',N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)



●2 Cl<sup>-</sup>

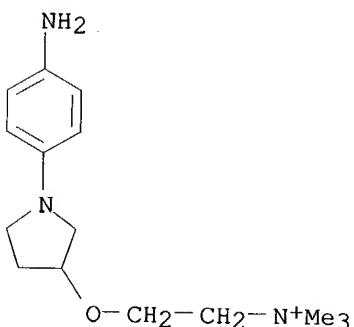
RN 701975-10-2 HCPLUS

CN Ethanaminium, 2-[[[1-(4-aminophenyl)-3-pyrrolidinyl]oxy]hydroxyphosphinyl]oxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)



RN 701975-11-3 HCPLUS

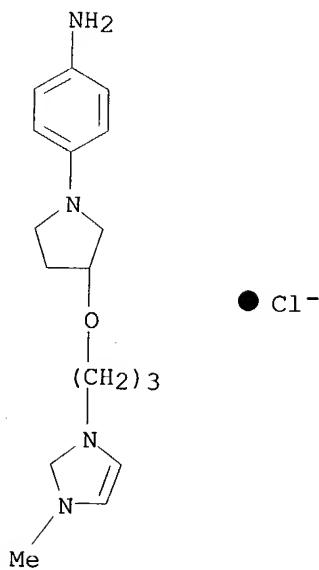
CN Ethanaminium, 2-[[1-(4-aminophenyl)-3-pyrrolidinyl]oxy]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl-

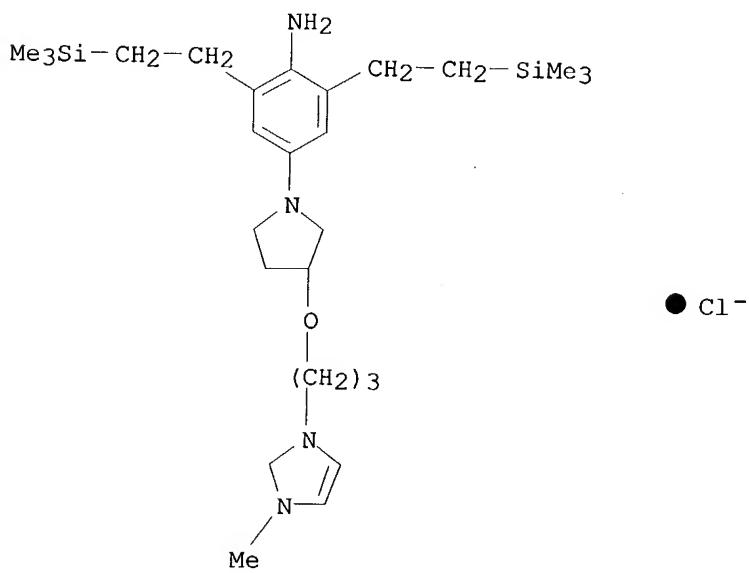
RN 701975-13-5 HCPLUS

CN 1H-Imidazolium, 1-[3-[[1-(4-aminophenyl)-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



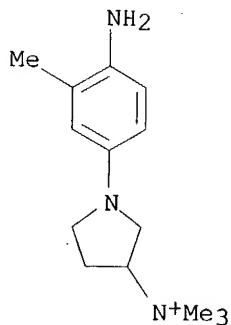
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-15-7 HCPLUS

CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



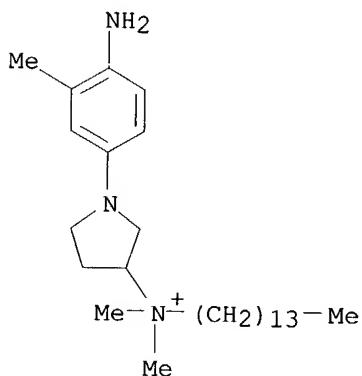
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-16-8 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



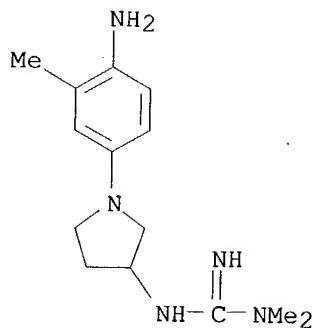
● Cl<sup>-</sup>

RN 701975-17-9 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-tetradecylchloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

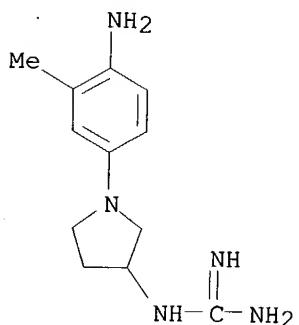
RN 701975-18-0 HCAPLUS  
CN Guanidine, N'-(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)-N,N-dimethyl-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 701975-19-1 HCPLUS

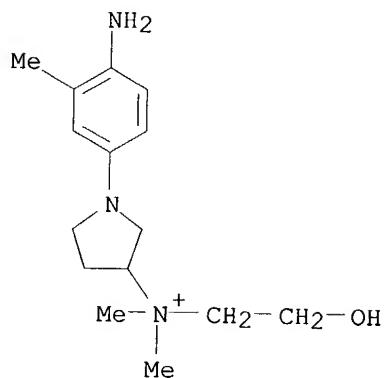
CN Guanidine, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 701975-20-4 HCPLUS

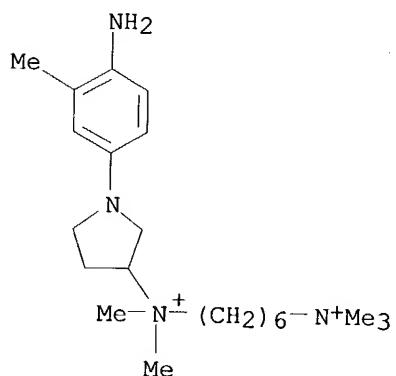
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-21-5 HCPLUS

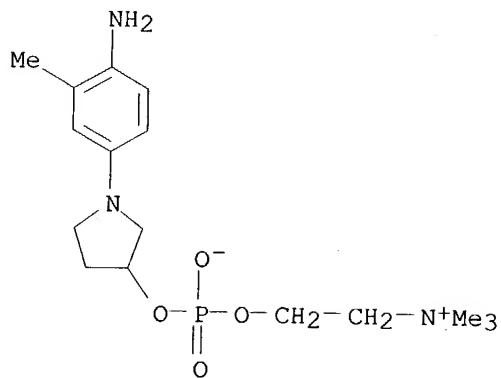
CN 1,6-Hexanediaminium, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-N,N',N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)



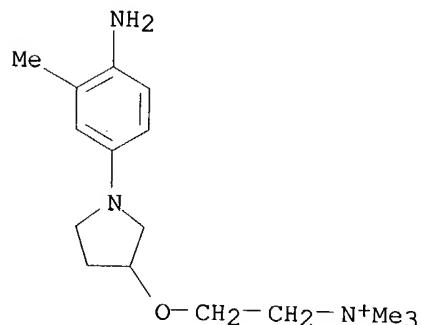
●2 Cl<sup>-</sup>

RN 701975-22-6 HCPLUS

CN Ethanaminium, 2-[[[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy]hydroxyphosphinyl]oxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)

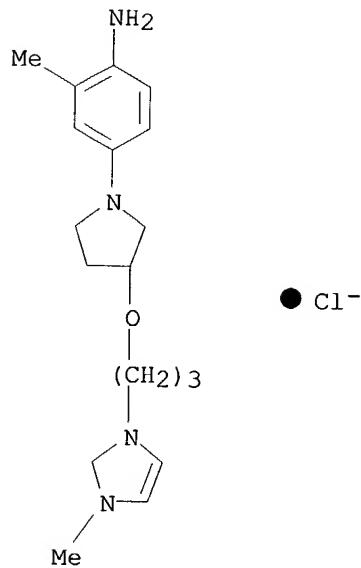


RN 701975-23-7 HCAPLUS  
CN Ethanaminium, 2-[(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)oxy]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



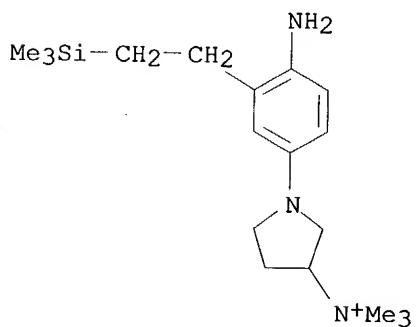
● Cl<sup>-</sup>

RN 701975-25-9 HCAPLUS  
CN 1H-Imidazolium, 1-[(3-[(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)oxy]propyl)-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-27-1 HCAPLUS

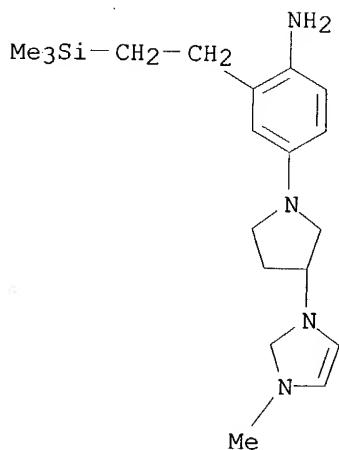
CN 3-Pyrrolidinaminium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl-

RN 701975-28-2 HCAPLUS

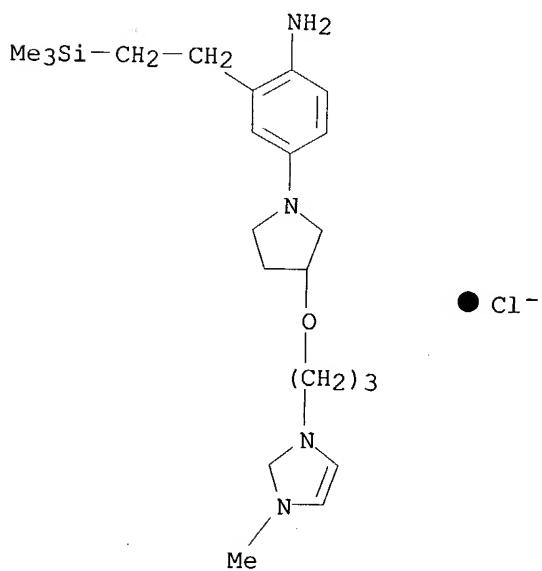
CN 1H-Imidazolium, 1-[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-29-3 HCPLUS

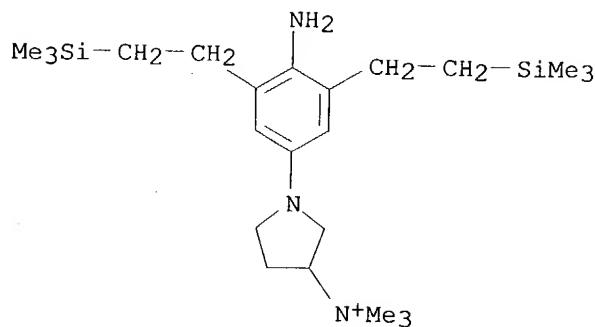
CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

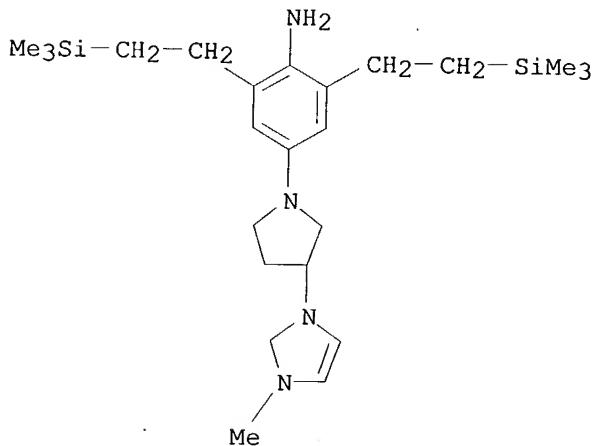
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-30-6 HCPLUS

CN 3-Pyrrolidinamininium, 1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



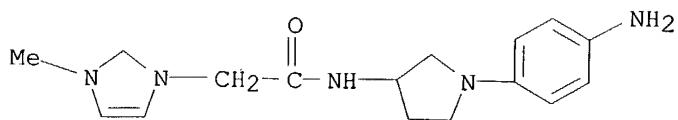
● Cl<sup>-</sup>

RN 701975-31-7 HCAPLUS  
CN 1H-Imidazolium, 1-[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

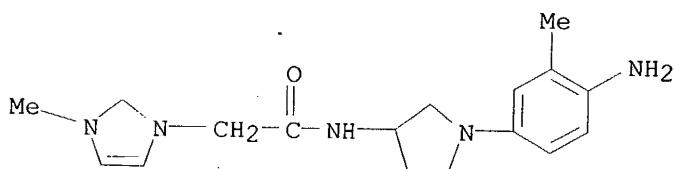
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-32-8 HCAPLUS  
CN 1H-Imidazolium, 1-[2-[(1-(4-aminophenyl)-3-pyrrolidinyl)amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-33-9 HCPLUS

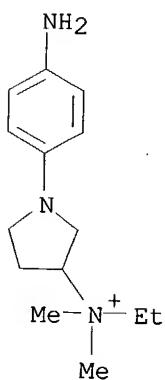
CN 1H-Imidazolium, 1-[2-[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-34-0 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

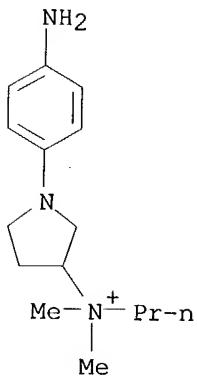
RN 701975-35-1 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, methyl

sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 435275-63-1  
CMF C15 H26 N3



CM 2

CRN 21228-90-0  
CMF C H3 O4 S

Me—O—SO<sub>3</sub><sup>—</sup>

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L31 ANSWER 14 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:482160 HCAPLUS  
DN 141:42533  
TI Hair dyeing compositions comprising a cationic tertiary p-phenylenediamine with a pyrrolidine ring and a cationic heterocyclic direct dye  
IN Cotteret, Jean; Lagrange, Alain  
PA L'oreal, Fr.  
SO Eur. Pat. Appl., 104 pp.  
CODEN: EPXXDW  
DT Patent  
LA French  
FAN.CNT 1  
PATENT NO. KIND DATE APPLICATION NO. DATE  
----- ----- ----- -----  
PI EP 1428505 A1 20040616 EP 2003-293130 20031212  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK  
FR 2848439 A1 20040618 FR 2002-15772 20021213  
PRAI FR 2002-15772 A 20021213  
OS MARPAT 141:42533  
AB Hair dyeing compns. comprise a cationic tertiary p-phenylenediamine with a pyrrolidine ring and a cationic heterocyclic direct dye. Thus, a composition

contained oleic acid 9, polyglyceryl oleyl ether 12, diethylaminopropyl laurylaminosuccinate sodium salt 3, ethoxylated oleylamine 7, ethoxylated alkyl ether monoethanolamide 10, ammonium acetate 20, propylene glycol 20, dilinoleic acid 1.5, reducing agents 0.915, sequestrants 1, resorcinol 0.085, [1-(4-aminophenyl)pyrrolidin-3-yl]trimethylammonium chloride 1.0, 2-methyl-5-aminophenol 0.5, niacinamide 0.2, perfume qs, ammonia 10.2, and water qs to 100 g. The above composition (50 g) was mixed with oxygenated water and 0.2 g Basic Red-51.

- IC ICM A61K007-13  
CC 62-3 (Essential Oils and Cosmetics)  
ST hair dye direct cationic heterocyclic pyrrolidine phenylenediamine  
IT Phenols, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(amino; hair dyeing compns. comprising cationic tertiary  
phenylenediamine with pyrrolidine ring and cationic heterocyclic direct  
dye)  
IT Surfactants  
(amphoteric; hair dyeing compns. comprising cationic tertiary  
phenylenediamine with pyrrolidine ring and cationic heterocyclic direct  
dye)  
IT Surfactants  
(anionic; hair dyeing compns. comprising cationic tertiary  
phenylenediamine with pyrrolidine ring and cationic heterocyclic direct  
dye)  
IT Azo dyes  
Polyelectrolytes  
Surfactants  
(cationic; hair dyeing compns. comprising cationic tertiary  
phenylenediamine with pyrrolidine ring and cationic heterocyclic direct  
dye)  
IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(diamines, aromatic; hair dyeing compns. comprising cationic tertiary  
phenylenediamine with pyrrolidine ring and cationic heterocyclic direct  
dye)  
IT Dyes  
(direct; hair dyeing compns. comprising cationic tertiary  
phenylenediamine with pyrrolidine ring and cationic heterocyclic direct  
dye)  
IT Hair preparations  
(dyes, oxidative; hair dyeing compns. comprising cationic tertiary  
phenylenediamine with pyrrolidine ring and cationic heterocyclic direct  
dye)  
IT Hair preparations  
(dyes; hair dyeing compns. comprising cationic tertiary  
phenylenediamine with pyrrolidine ring and cationic heterocyclic direct  
dye)  
IT Oxidizing agents  
Surfactants  
Thickening agents  
(hair dyeing compns. comprising cationic tertiary phenylenediamine with  
pyrrolidine ring and cationic heterocyclic direct dye)  
IT Bromates  
Ethers, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. comprising cationic tertiary phenylenediamine with  
pyrrolidine ring and cationic heterocyclic direct dye)  
IT Surfactants  
(nonionic; hair dyeing compns. comprising cationic tertiary

phenylenediamine with pyrrolidine ring and cationic heterocyclic direct dye)

IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(peroxy; hair dyeing compns. comprising cationic tertiary  
phenylenediamine with pyrrolidine ring and cationic heterocyclic direct dye)

IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(phenolic; hair dyeing compns. comprising cationic tertiary  
phenylenediamine with pyrrolidine ring and cationic heterocyclic direct dye)

IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(salts, peroxy; hair dyeing compns. comprising cationic tertiary  
phenylenediamine with pyrrolidine ring and cationic heterocyclic direct dye)

IT Surfactants  
(zwitterionic; hair dyeing compns. comprising cationic tertiary  
phenylenediamine with pyrrolidine ring and cationic heterocyclic direct dye)

IT 56-81-5, Glycerol, biological studies 57-55-6, Propylene glycol,  
biological studies 64-17-5, Ethanol, biological studies 90-15-3,  
 $\alpha$ -Naphthol 95-55-6D, o-Aminophenol, derivs. 95-88-5,  
4-ChloroResorcinol 106-50-3D, p-Phenylenediamine, derivs. 108-45-2,  
1,3-Diaminobenzene, biological studies 108-45-2D, m-Phenylenediamine,  
derivs. 108-46-3, Resorcinol, biological studies 108-46-3D,  
Resorcinol, derivs. 123-30-8D, p-Aminophenol, derivs. 124-43-6  
533-31-3, Sesamol 591-27-5D, m-Aminophenol, derivs. 608-25-3,  
2-MethylResorcinol 2380-86-1, 6-Hydroxyindole 2380-94-1,  
4-Hydroxyindole 7469-77-4, 2-Methyl-1-Naphthol 7556-37-8,  
4-Hydroxy-N-methylindole 7722-84-1, Hydrogen peroxide, biological  
studies 9035-73-8, Oxidase 12221-52-2, Basic Red 22 12270-25-6,  
Basic Red 51 16867-03-1, 2-Amino-3-hydroxypyridine 25711-72-2,  
3-Ureido aniline 26021-57-8, 6-Hydroxybenzomorpholine 26455-21-0  
61901-61-9, Basic Orange 31 70643-19-5 81329-90-0 81892-72-0  
85679-78-3, 3,5-DiAmino-2,6-dimethoxypyridine 116844-55-4, Basic Yellow  
87 149330-25-6 178822-20-3 188006-49-7 402941-00-8

**435275-61-9 435275-62-0 435275-65-3**  
**435275-66-4 435275-67-5 435275-68-6**  
**435275-69-7 435275-70-0 435275-72-2**  
**435275-73-3 435275-74-4 435275-82-4**

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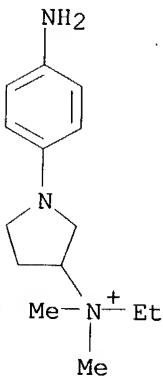
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing compns. comprising cationic tertiary  
 phenylenediamine with pyrrolidine ring and cationic heterocyclic direct  
 dye)

IT    435275-61-9 435275-62-0 435275-65-3  
 435275-66-4 435275-67-5 435275-68-6  
 435275-69-7 435275-70-0 435275-72-2  
 435275-73-3 435275-74-4 435275-82-4  
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RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing compns. comprising cationic tertiary  
 phenylenediamine with pyrrolidine ring and cationic heterocyclic direct  
 dye)

RN    435275-61-9 HCPLUS

CN    3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, iodide (9CI)  
 (CA INDEX NAME)



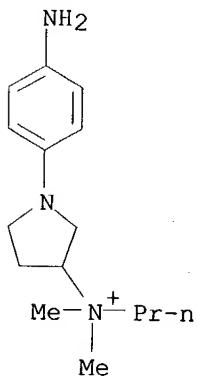
● I<sup>-</sup>

RN    435275-62-0 HCPLUS

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

ELHILO 10/735291 11/08/04 Page 309

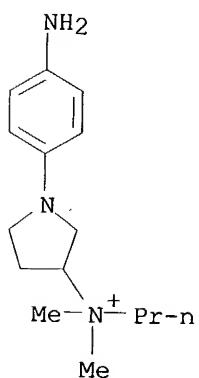
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-65-3 HCPLUS

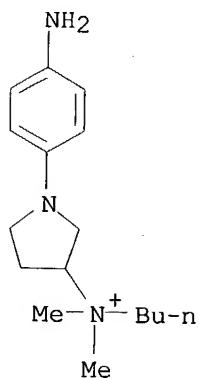
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, bromide  
(9CI) (CA INDEX NAME)



● Br<sup>-</sup>

RN 435275-66-4 HCPLUS

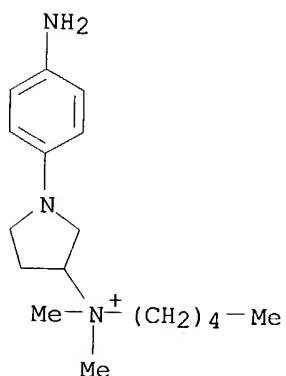
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-butyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-67-5 HCPLUS

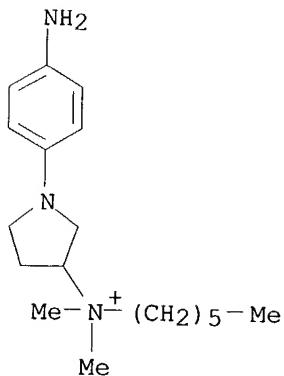
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-pentyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-68-6 HCPLUS

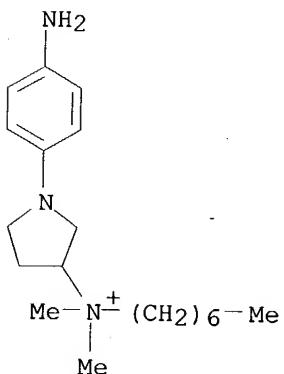
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-69-7 HCPLUS

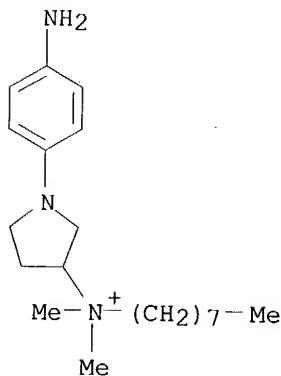
CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N-heptyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-70-0 HCPLUS

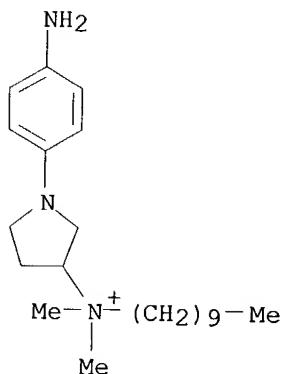
CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N,N-dimethyl-N-octyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-72-2 HCPLUS

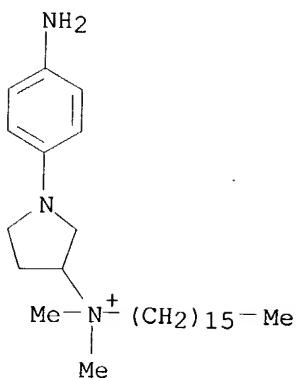
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-decyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

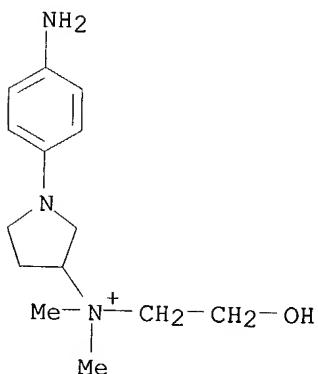
RN 435275-73-3 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexadecyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



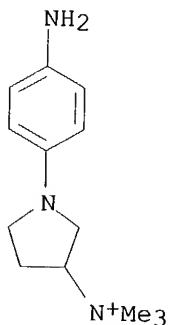
● I<sup>-</sup>

RN 435275-74-4 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-,  
iodide (9CI) (CA INDEX NAME)



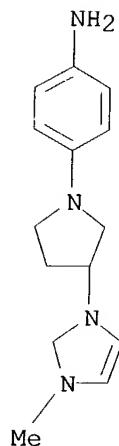
● I<sup>-</sup>

RN 435275-82-4 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N,N-trimethyl-, chloride (9CI)  
(CA INDEX NAME)



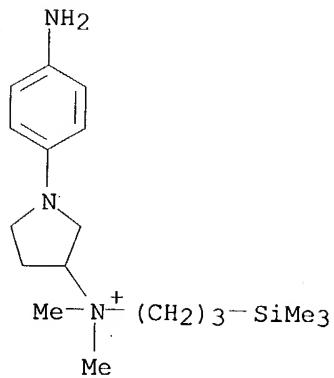
● Cl<sup>-</sup>

RN 607355-12-4 HCAPLUS  
CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-methyl-, chloride  
(9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

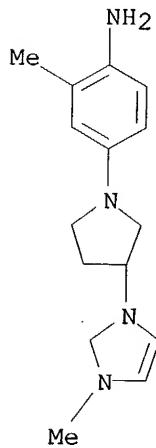
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 607355-13-5 HCAPLUS  
CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-16-8 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

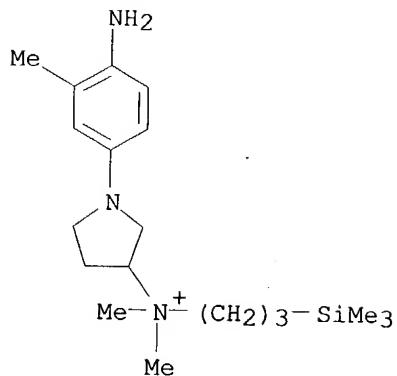


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

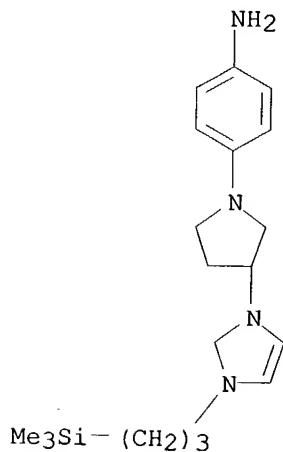
RN 607355-17-9 HCPLUS

CN 3-Pyrrolidinamininium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



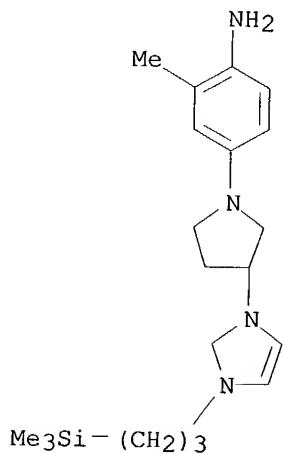
● Cl<sup>-</sup>

RN 607355-18-0 HCPLUS  
CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 607355-19-1 HCPLUS  
CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)

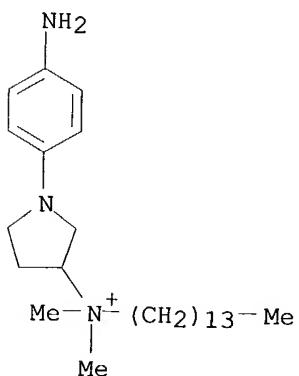


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-01-1 HCAPLUS

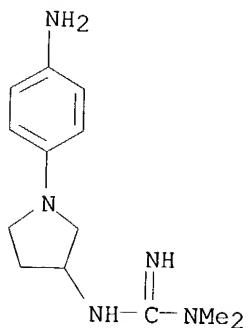
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-tetradecyl-, bromide  
(9CI) (CA INDEX NAME)



● Br<sup>-</sup>

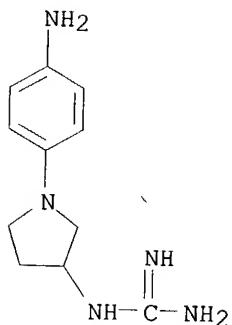
RN 701975-04-4 HCAPLUS

CN Guanidine, N'-[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N-dimethyl-,  
monohydrochloride (9CI) (CA INDEX NAME)



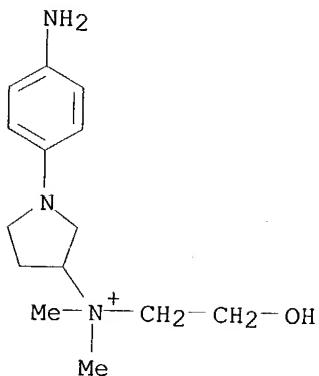
● HCl

RN 701975-07-7 HCPLUS  
CN Guanidine, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-, monohydrochloride (9CI)  
(CA INDEX NAME)



● HCl

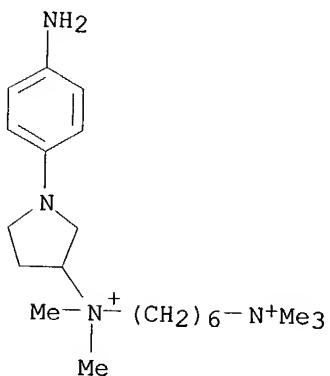
RN 701975-08-8 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



●  $\text{Cl}^-$

RN 701975-09-9 HCPLUS

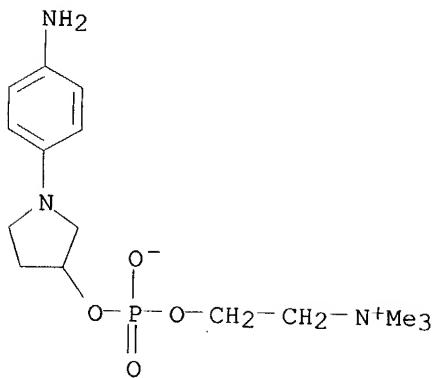
CN 1,6-Hexanediaminium, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N,N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)



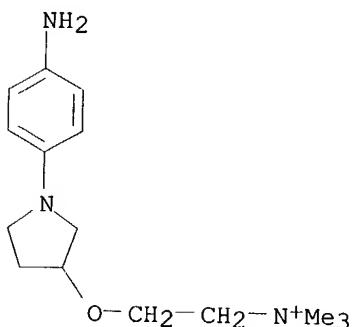
●2  $\text{Cl}^-$

RN 701975-10-2 HCPLUS

CN Ethanaminium, 2-[[[[[1-(4-aminophenyl)-3-pyrrolidinyl]oxy]hydroxyphosphinyl]oxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)

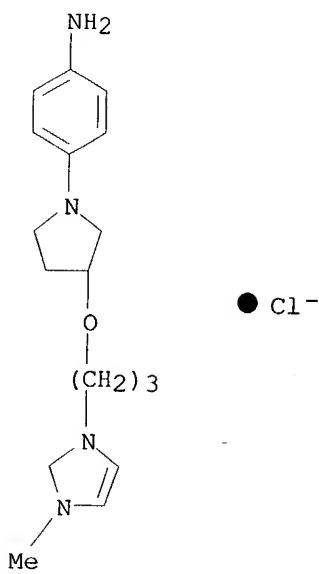


RN 701975-11-3 HCPLUS  
CN Ethanaminium, 2-[(1-(4-aminophenyl)-3-pyrrolidinyl)oxy]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



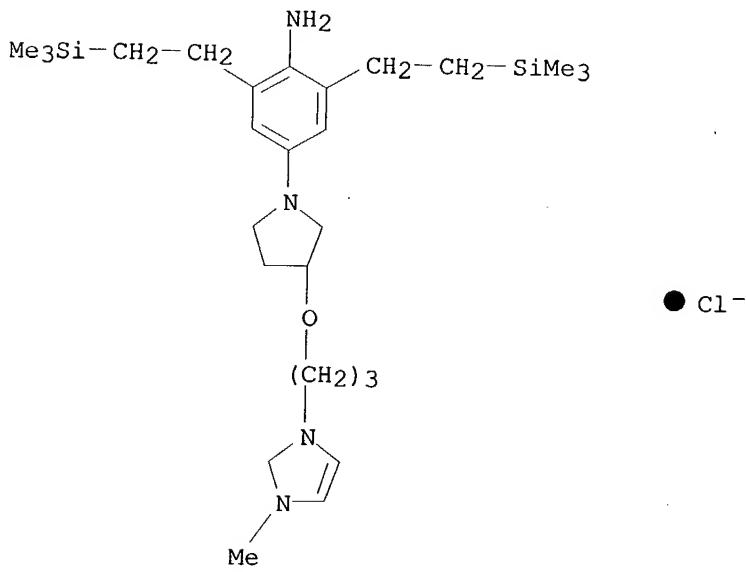
● Cl<sup>-</sup>

RN 701975-13-5 HCPLUS  
CN 1H-Imidazolium, 1-[3-[(1-(4-aminophenyl)-3-pyrrolidinyl)oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



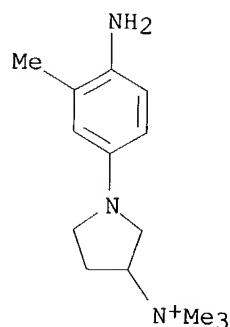
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-15-7 HCPLUS

CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



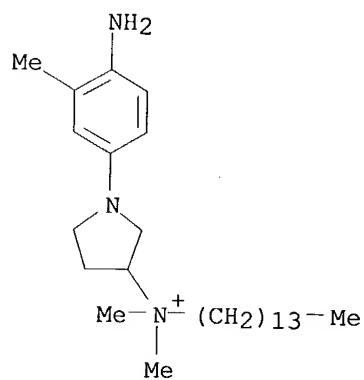
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-16-8 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



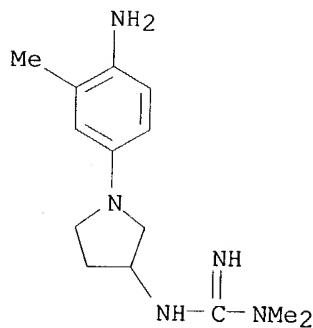
● Cl<sup>-</sup>

RN 701975-17-9 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-tetradecyl-, chloride (9CI) (CA INDEX NAME)



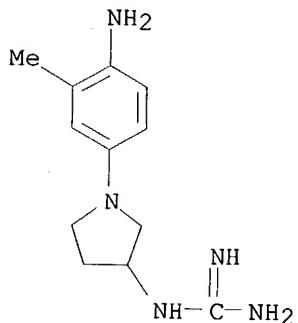
● Cl<sup>-</sup>

RN 701975-18-0 HCAPLUS  
CN Guanidine, N'-(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)-N,N-dimethyl-, monohydrochloride (9CI) (CA INDEX NAME)



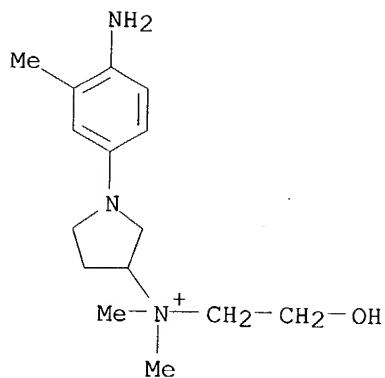
● HCl

RN 701975-19-1 HCPLUS  
CN Guanidine, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

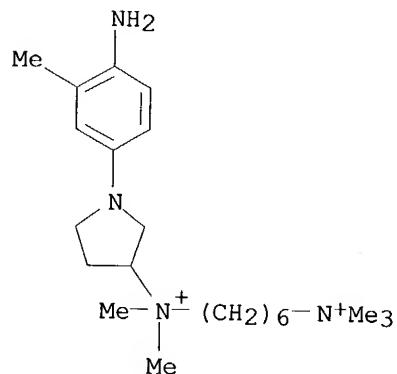
RN 701975-20-4 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



●  $Cl^-$

RN 701975-21-5 HCPLUS

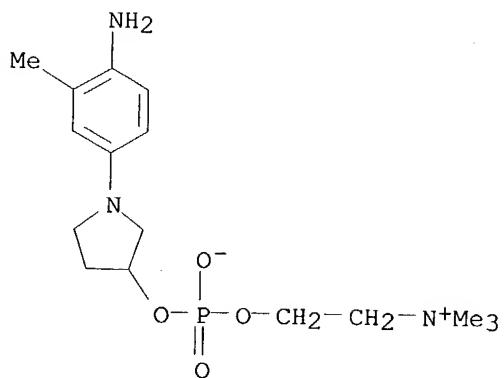
CN 1,6-Hexanediaminium, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-N,N,N',N'-pentamethyl-, dichloride (9CI) (CA INDEX NAME)



●2  $Cl^-$

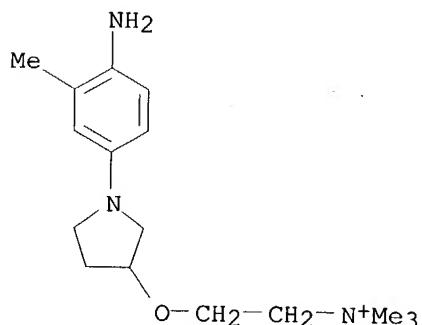
RN 701975-22-6 HCPLUS

CN Ethanaminium, 2-[[[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy]hydroxyphosphinyl]oxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)



RN 701975-23-7 HCPLUS

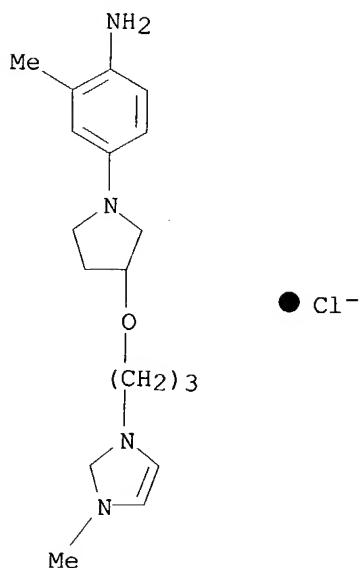
CN Ethanaminium, 2-[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 701975-25-9 HCPLUS

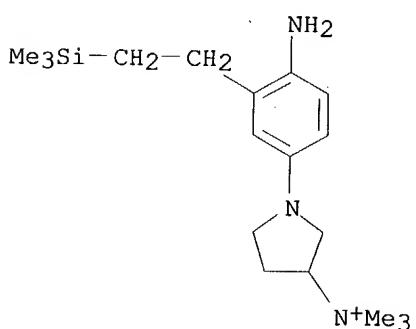
CN 1H-Imidazolium, 1-[3-[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

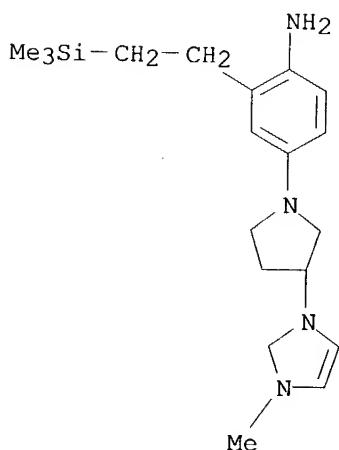
RN 701975-27-1 HCAPLUS

CN 3-Pyrrolidinaminium, 1-[4-amino-3-[2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



RN 701975-28-2 HCAPLUS

CN 1H-Imidazolium, 1-[1-[4-amino-3-[(2R,3S)-3-methyl-2-(trimethylsilyl)propyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

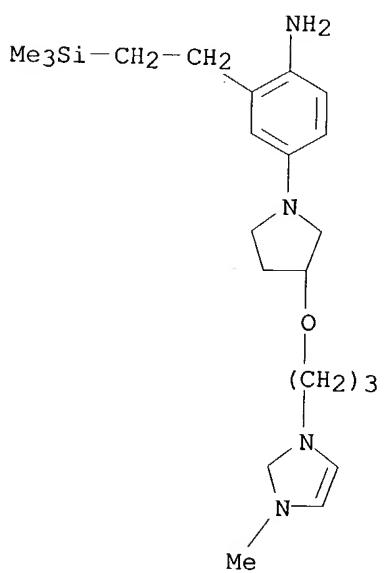


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 701975-29-3 HCAPLUS

CN 1H-Imidazolium, 1-[3-[[1-[4-amino-3-[(2-(trimethylsilyl)ethyl]phenyl]pyrrolidinyl]oxy]propyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

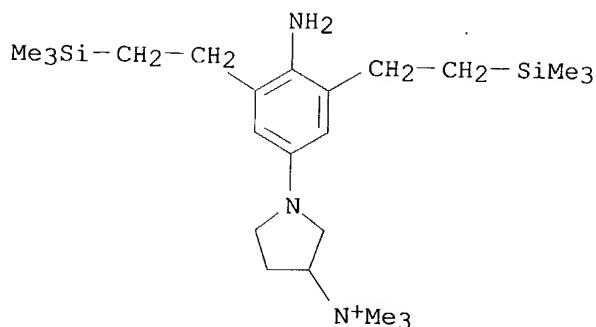


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

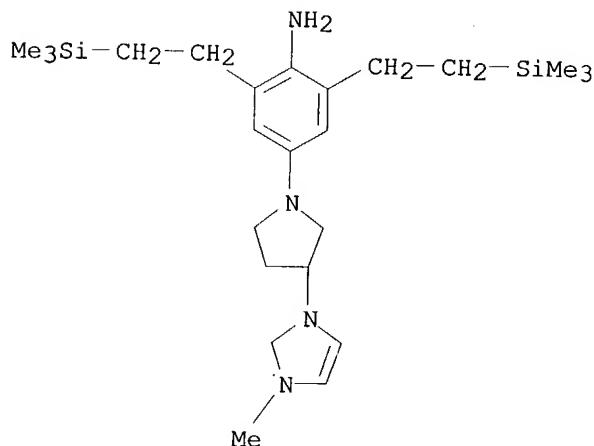
RN 701975-30-6 HCAPLUS

CN 3-Pyrrolidinamininium, 1-[4-amino-3,5-bis[(2-(trimethylsilyl)ethyl]phenyl]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



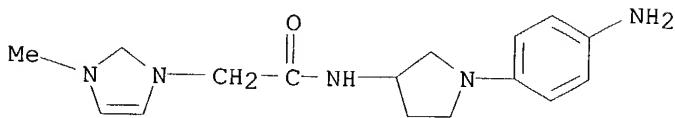
● Cl<sup>-</sup>

RN 701975-31-7 HCAPLUS  
CN 1H-Imidazolium, 1-[1-[4-amino-3,5-bis[2-(trimethylsilyl)ethyl]phenyl]-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

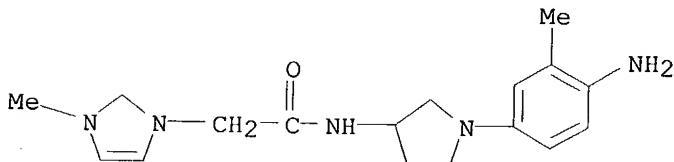
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-32-8 HCAPLUS  
CN 1H-Imidazolium, 1-[2-[[1-(4-aminophenyl)-3-pyrrolidinyl]amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-33-9 HCPLUS

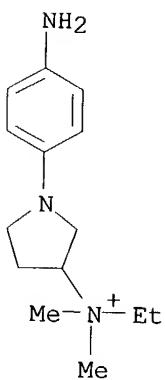
CN 1H-Imidazolium, 1-[2-[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]amino]-2-oxoethyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 701975-34-0 HCPLUS

CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

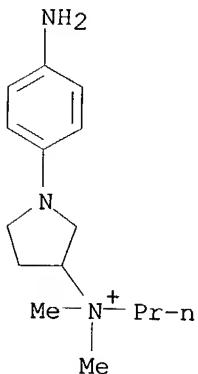
RN 701975-35-1 HCPLUS

CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, methyl

sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 435275-63-1  
CMF C15 H26 N3



CM 2

CRN 21228-90-0  
CMF C H3 O4 S

Me-O-SO<sub>3</sub><sup>-</sup>

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L31 ANSWER 15 OF 19 HCPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:200101 HCPLUS  
DN 140:235596  
TI Preparation of bis-paraphenylenediamines comprising pyrrolidine groups and their use as dyes for keratinic fibers  
IN Sabelle, Stephane; Ramos, Laure; Leduc, Madeleine  
PA L'Oreal, Fr.  
SO Eur. Pat. Appl., 15 pp.  
CODEN: EPXXDW  
DT Patent  
LA French  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1396486	A1	20040310	EP 2003-292177	20030904
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	FR 2844271	A1	20040312	FR 2002-11133	20020909
	US 2004123401	A1	20040701	US 2003-657245	20030909
PRAI	FR 2002-11133	A	20020909		
	US 2002-431713P	P	20021209		
OS	MARPAT 140:235596				

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

- AB Title compds. I [wherein n, n' = independently 0-4; when n, n' ≥ 2, R1 and R2 can be identical or different; R1, R2 = independently H, (un)substituted aliphatic, alicyclic, saturated or unsatd. hydrocarbon chain with at least one carbon replaced by one or more O, N, Si, S, SO, or SO<sub>2</sub>; R1 and R2 never include peroxide bond, diazo, NO<sub>2</sub>, or NO; A = covalent bond or (un)substituted alkylene chain with at least one carbon replaced by an ammonium radical and/or by O, S, SiN, CO, SO, SO<sub>2</sub>; R6, R7 = independently H, CO<sub>2</sub>H and derivs., alkyl/dialkyl/carbamoyl, trialkylsilane, trialkylammonium, N-alkylimidazolium, (un)substituted alkyl, R8, R9 = independently H, OH, alkoxy, monoalkyl/dialkyl/amino, thiol, CO<sub>2</sub>H and derivs., alkyl/dialkyl/carbamoyl, trialkylsilane, trialkylammonium, N-alkylimidazolium, (un)substituted alkyl] were prepared as oxidation bases for dyeing keratinous fibers, in particular human hair fibers. For example, II•Cl-•2HCl was prepared alkylation of [1-(4-nitrophenyl)pyrrolidin-3-yl]dimethylamine with 1,6-dibromohexane in MeOH at reflux for 6 h, followed by Pd/C hydrogenation at 10 Barr and 65°. Formulations of II in acidic medium gave blue-violet shades.
- IC ICM C07D207-14  
ICS C07D207-09; C07D521-00; C07D487-08; C07D207-08; C07D207-16; A61K007-13
- CC 27-10 (Heterocyclic Compounds (One Hetero Atom))  
Section cross-reference(s): 62
- ST pyrrolidine paraphenylenediamine prepn hair dye keratin fiber
- IT Hair preparations  
Human  
(preparation of bis-paraphenylenediamines comprising pyrrolidine groups and their use as dyes for keratinic fibers)
- IT 74295-58-2P, 2,2'-Bipyrrolidinyl **667914-89-8P** 667914-91-2P  
667914-93-4P, 1,1'-Bis(4-nitrophenyl)-2,2'-bipyrrolidinyl  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(intermediate; preparation of bis-paraphenylenediamines comprising pyrrolidine groups as dyes for keratinic fibers)
- IT 667914-88-7P **667914-90-1P** 667914-92-3P, 1,1'-Bis(4-aminophenyl)-2,2'-bipyrrolidinyl **667914-94-5P**  
**667914-95-6P** **667914-96-7P**, 1,3-Bis[1-(4-aminophenyl)pyrrolidin-3-yl]-1H-imidazol-3-ium chloride 667914-97-8P, 1,4-Bis[1-(4-aminophenyl)pyrrolidin-3-yl]-1,4-dimethylpiperazinedium dichloride 667914-99-0P 667915-01-7P, N,N'-Bis[1-(4-aminophenyl)pyrrolidin-2-yl]methyl]-N,N,N',N'-tetramethylhexane-1,6-diaminium dichloride 667915-03-9P 667915-05-1P, 1,4-Bis[[1-(4-aminophenyl)pyrrolidin-2-yl]methyl]-1,4-dimethylpiperazinedium dichloride 667915-07-3P **667915-09-5P**, N,N'-Bis[1-(4-aminophenyl)pyrrolidin-3-yl]-N,N,N',N'-tetramethylpropane-1,3-diaminium dichloride **667915-11-9P** 667915-13-1P, N,N'-Bis[[1-(4-aminophenyl)pyrrolidin-2-yl]methyl]-N,N,N',N'-tetramethylpropane-1,3-diaminium dichloride 667915-15-3P **667915-17-5P**, 1,3-Bis[3-[[1-(4-aminophenyl)pyrrolidin-3-yl]amino]propyl]-1H-imidazol-3-ium chloride **667915-18-6P**, N,N'-Bis[1-(4-aminophenyl)-5-(hydroxymethyl)pyrrolidin-3-yl]-N,N,N',N'-tetramethylhexane-1,6-diaminium dichloride 667915-19-7P **667915-20-0P** 667915-21-1P,

N,N'-Bis[1-(4-aminophenyl)pyrrolidin-3-yl]butane-1,4-diamine  
 667915-22-2P, 1,3-Bis[[1-(4-aminophenyl)pyrrolidin-2-yl]methoxy]propane  
 667915-23-3P, N,N'-Bis[[1-(4-aminophenyl)-4-hydroxypyrrrolidin-2-yl]methyl]-  
 N,N,N',N'-tetramethylpropane-1,3-diaminium dichloride 667915-24-4P,  
 N,N'-Bis[1-(4-aminophenyl)pyrrolidin-3-yl]ethane-1,2-diamine  
 667915-25-5P

RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)

(oxidation base in dyeing; preparation of bis-paraphenylenediamines comprising

pyrrolidine groups as dyes for **keratinic fibers**)

IT 109-64-8, 1,3-Dibromopropane 123-75-1, Pyrrolidine, reactions  
 350-46-9, 4-Fluoronitrobenzene 629-03-8, 1,6-Dibromohexane  
 361346-46-5, [1-(4-Nitrophenyl)pyrrolidin-3-yl]dimethylamine  
 640725-64-0, 1-[1-(4-Nitrophenyl)pyrrolidin-3-yl]-1H-imidazole

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of bis-paraphenylenediamines comprising pyrrolidine groups as dyes for keratinic fibers)

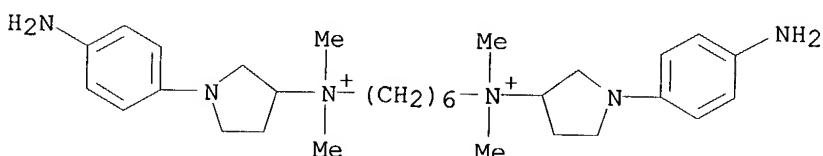
IT **667914-89-8P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; preparation of bis-paraphenylenediamines comprising pyrrolidine groups as dyes for **keratinic fibers**)

RN 667914-89-8 HCPLUS

CN 1,6-Hexanediaminium, N,N'-bis[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N,N',N'-tetramethyl-, dichloride, dihydrochloride (9CI) (CA INDEX NAME)



●2 Cl<sup>-</sup>

●2 HCl

IT **667914-90-1P 667914-94-5P 667914-95-6P**

**667914-96-7P**, 1,3-Bis[1-(4-aminophenyl)pyrrolidin-3-yl]-1H-imidazol-3-ium chloride **667915-09-5P**, N,N'-Bis[1-(4-aminophenyl)pyrrolidin-3-yl]-N,N,N',N'-tetramethylpropane-1,3-diaminium dichloride **667915-11-9P 667915-17-5P**, 1,3-Bis[3-[(1-(4-aminophenyl)pyrrolidin-3-yl)amino]propyl]-1H-imidazol-3-ium chloride **667915-18-6P**, N,N'-Bis[1-(4-aminophenyl)-5-(hydroxymethyl)pyrrolidin-3-yl]-N,N,N',N'-tetramethylhexane-1,6-diaminium dichloride **667915-20-0P**

RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)

(oxidation base in dyeing; preparation of bis-paraphenylenediamines comprising

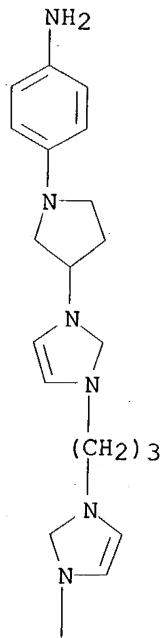
pyrrolidine groups as dyes for **keratinic fibers**)

ELHILO 10/735291 11/08/04 Page 333

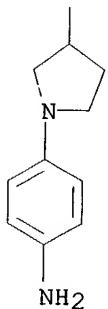
RN 667914-90-1 HCPLUS

CN 1H-Imidazolium, 1,1'-(1,3-propanediyl)bis[3-[1-(4-aminophenyl)-3-pyrrolidinyl]-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



●2 Br<sup>-</sup>

●2 HBr

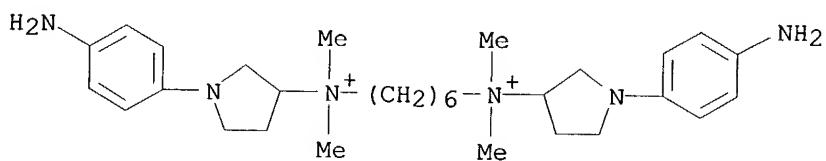
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

ELHILO 10/735291 11/08/04 Page 334

RN 667914-94-5 HCPLUS

CN 1,6-Hexanediaminium, N,N'-bis[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)

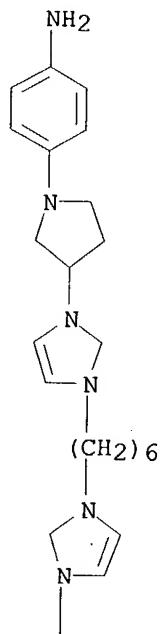


●2 Cl<sup>-</sup>

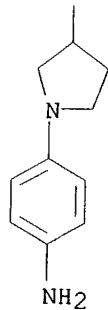
RN 667914-95-6 HCPLUS

CN 1H-Imidazolium, 1,1'-(1,6-hexanediyl)bis[3-[1-(4-aminophenyl)-3-pyrrolidinyl]-, dichloride (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

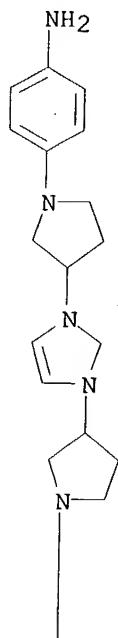


●2 Cl<sup>-</sup>

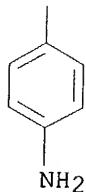
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 667914-96-7 HCAPLUS

CN 1H-Imidazolium, 1,3-bis[1-(4-aminophenyl)-3-pyrrolidinyl]-, chloride (9CI)  
(CA INDEX NAME)

PAGE 1-A



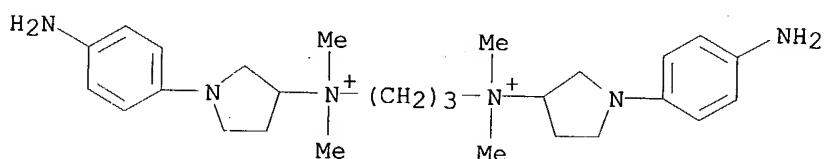
PAGE 2-A



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 667915-09-5 HCAPLUS

CN 1,3-Propanediaminium, N,N'-bis[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)

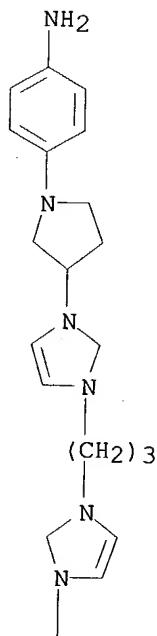


●2 Cl<sup>-</sup>

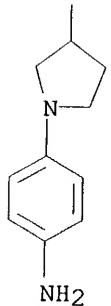
RN 667915-11-9 HCAPLUS

CN 1H-Imidazolium, 1,1'-(1,3-propanediyl)bis[3-[1-(4-aminophenyl)-3-pyrrolidinyl]-, dichloride (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



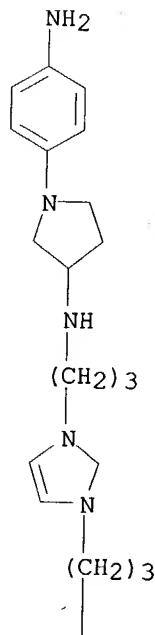
●2 Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

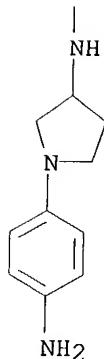
RN 667915-17-5 HCAPLUS

CN 1H-Imidazolium, 1,3-bis[3-[(1-(4-aminophenyl)-3-pyrrolidinyl]amino]propyl]-, chloride (9CI) (CA INDEX NAME)

PAGE 1-A



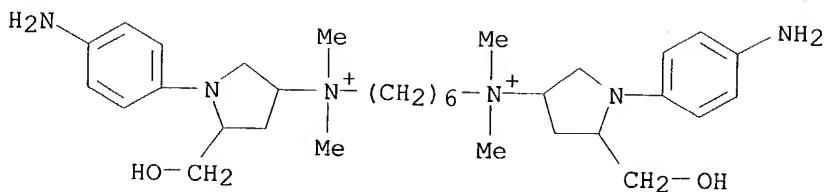
PAGE 2-A



● Cl-

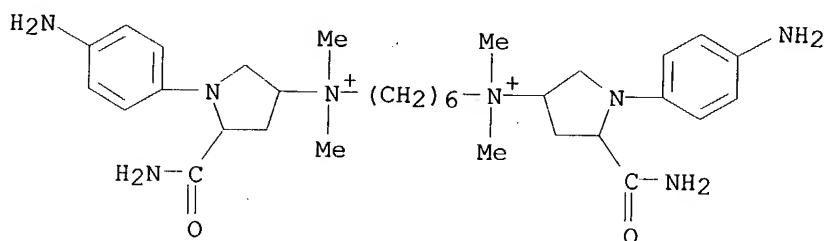
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 667915-18-6 HCAPLUS

CN 1,6-Hexanediaminium, N,N'-bis[1-(4-aminophenyl)-5-(hydroxymethyl)-3-pyrrolidinyl]-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)

●2 Cl<sup>-</sup>

RN 667915-20-0 HCPLUS

CN 1,6-Hexanediaminium, N,N'-bis[5-(aminocarbonyl)-1-(4-aminophenyl)-3-pyrrolidinyl]-N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)

●2 Cl<sup>-</sup>RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMATL31 ANSWER 16 OF 19 HCPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:17396 HCPLUS

DN 140:81854

TI Hair dyeing compositions containing pyrrolidinyl-p-phenylenediamine derivatives

IN Sabelle, Stephane; Ramos, Laure; Leduc, Madeleine

PA L'Oreal, Fr.

SO Eur. Pat. Appl., 21 pp.  
CODEN: EPXXDW

DT Patent

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1378230	A1	20040107	EP 2003-291616	20030701
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	FR 2841780	A1	20040109	FR 2002-8514	20020705
	FR 2841780	B1	20040910		
	JP 2004035559	A2	20040205	JP 2003-271500	20030707
	US 2004077852	A1	20040422	US 2003-612986	20030707
PRAI	FR 2002-8514	A	20020705		

OS US 2002-408900P P 20020909  
MARPAT 140:81854

AB Pyrrolidinyl-p-phenylenediamine derivs. are useful for the dyeing of human hair fibers. Thus, 4-(3-imidazol-1-ylpyrrolidin-1-yl)phenylamine-HCl was prepared by the mesylation of N-(4-nitrophenyl)-3-hydroxypyrrrolidine in THF in the presence of Et<sub>3</sub>N followed by the reaction of the product with imidazole and hydrogenation. A formulation contained the above compound 0.001, 2-(2,4-diaminophenoxyethanol)-2HCl 0.001, a support formulation and water qs to 100 g.

IC ICM A61K007-13  
ICS C07D207-10; C07D233-56; C07D231-12; C07D243-08; C07D249-08;  
C07D295-088; C07D295-125

CC 62-3 (Essential Oils and Cosmetics)  
Section cross-reference(s): 28

ST hair dye phenylenediamine pyrrolidinyl

IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(diamines, Ph group-containing; hair dyeing compns. containing pyrrolidinylphenylenediamine derivs.)

IT Hair preparations  
(dyes; hair dyeing compns. containing pyrrolidinylphenylenediamine derivs.)

IT Hair  
Human  
Oxidizing agents  
(hair dyeing compns. containing pyrrolidinylphenylenediamine derivs.)

IT Bromates  
Peroxy acids  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. containing pyrrolidinylphenylenediamine derivs.)

IT 95-55-6D, o-Aminophenol, derivs. 108-45-2D, m-Phenylenediamine, derivs.  
123-30-8D, p-Aminophenol, derivs. 591-27-5D, m-Aminophenol, derivs.  
612-76-0D, m-Diphenol, derivs. 2380-86-1, 1H-Indol-6-ol 2835-95-2  
7722-84-1, Hydrogen peroxide, biological studies 9035-73-8, Oxidase  
16867-03-1, 2-Aminopyridin-3-ol 30569-52-9 66422-95-5 80419-48-3  
**640725-42-4** 640725-44-6 640725-45-7 640725-46-8  
640725-47-9 640725-48-0 640725-49-1 **640725-50-4**  
**640725-52-6** **640725-53-7** 640725-54-8 640725-55-9  
640725-56-0 640725-57-1 640725-58-2 **640725-59-3**  
**640725-60-6** 640725-61-7 640725-62-8  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. containing pyrrolidinylphenylenediamine derivs.)

IT **640725-40-2P** 640725-43-5P **640725-51-5P**  
**640725-65-1P** 640725-66-2P **640725-68-4P**  
RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(hair dyeing compns. containing pyrrolidinylphenylenediamine derivs.)

IT 123-75-1, Pyrrolidine, reactions 288-32-4, Imidazole, reactions  
350-46-9, 4-Fluoronitrobenzene 5036-48-6, 1H-Imidazole-1-propanamine  
40499-83-0, 3-Hydroxypyrrrolidine  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hair dyeing compns. containing pyrrolidinylphenylenediamine derivs.)

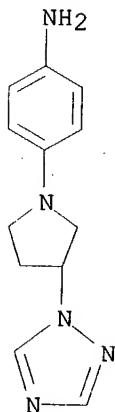
IT 361346-55-6P 607354-89-2P 640725-63-9P 640725-64-0P 640725-67-3P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(hair dyeing compns. containing pyrrolidinylphenylenediamine derivs.)

IT **640725-42-4** **640725-50-4** **640725-52-6**  
**640725-53-7** **640725-59-3** **640725-60-6**

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyeing compns. containing pyrrolidinylphenylenediamine  
derivs.)

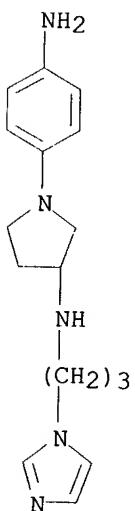
RN 640725-42-4 HCPLUS

CN Benzenamine, 4-[3-(1H-1,2,4-triazol-1-yl)-1-pyrrolidinyl]- (9CI) (CA  
INDEX NAME)



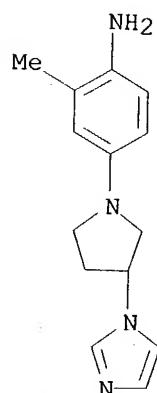
RN 640725-50-4 HCPLUS

CN 1H-Imidazole-1-propanamine, N-[1-(4-aminophenyl)-3-pyrrolidinyl]- (9CI)  
(CA INDEX NAME)

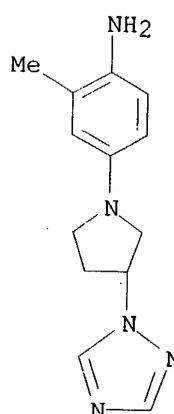


RN 640725-52-6 HCPLUS

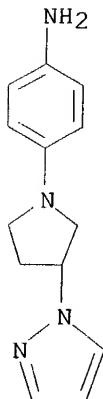
CN Benzenamine, 4-[3-(1H-imidazol-1-yl)-1-pyrrolidinyl]-2-methyl- (9CI) (CA  
INDEX NAME)



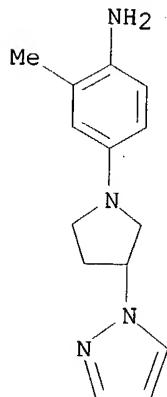
RN 640725-53-7 HCAPLUS  
CN Benzenamine, 2-methyl-4-[3-(1H-1,2,4-triazol-1-yl)-1-pyrrolidinyl]- (9CI)  
(CA INDEX NAME)



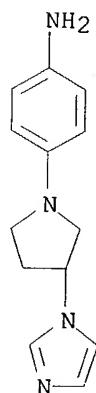
RN 640725-59-3 HCAPLUS  
CN Benzenamine, 4-[3-(1H-pyrazol-1-yl)-1-pyrrolidinyl]- (9CI) (CA INDEX  
NAME)



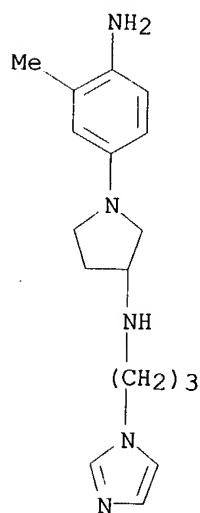
RN 640725-60-6 HCAPLUS  
CN Benzenamine, 2-methyl-4-[3-(1H-pyrazol-1-yl)-1-pyrrolidinyl]- (9CI) (CA INDEX NAME)



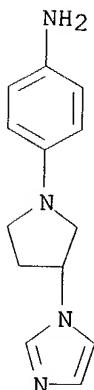
IT 640725-40-2P 640725-51-5P 640725-65-1P  
640725-68-4P  
RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(hair dyeing compns. containing pyrrolidinylphenylenediamine derivs.)  
RN 640725-40-2 HCAPLUS  
CN Benzenamine, 4-[3-(1H-imidazol-1-yl)-1-pyrrolidinyl]- (9CI) (CA INDEX NAME)



RN 640725-51-5 HCPLUS  
CN 1H-Imidazole-1-propanamine, N-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-  
(9CI) (CA INDEX NAME)

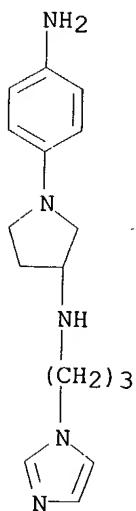


RN 640725-65-1 HCPLUS  
CN Benzenamine, 4-[3-(1H-imidazol-1-yl)-1-pyrrolidinyl]-, monohydrochloride  
(9CI) (CA INDEX NAME)



● HCl

RN 640725-68-4 HCPLUS  
CN 1H-Imidazole-1-propanamine, N-[1-(4-aminophenyl)-3-pyrrolidinyl]-,  
monohydrochloride (9CI) (CA INDEX NAME)



● HCl

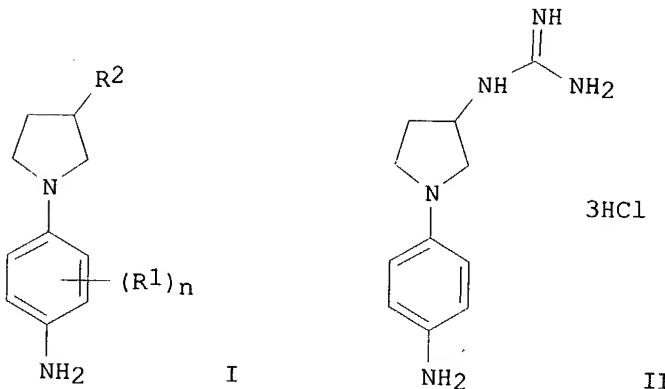
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L31 ANSWER 17 OF 19 HCPLUS COPYRIGHT 2004 ACS on STN  
AN 2003:771366 HCPLUS  
DN 139:276814  
TI Preparation of aminophenylpyrrolidines as dyes for keratinic fibers  
IN Sabelle, Stephane; Ramos, Laure; Leduc, Madeleine; Philippe, Michel  
PA L'Oreal, Fr.  
SO Eur. Pat. Appl., 4 pp.  
CODEN: EPXXDW  
DT Patent

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1348695 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK FR 2837821	A1	20031001	EP 2003-290597 FR 2002-3847	20030311 20020327
	JP 2003286256	A2	20031010	JP 2003-89390	20030327
	US 2003229949	A1	20031218	US 2003-397245	20030327
	US 2004194227	A9	20041007		
PRAI	FR 2002-3847	A	20020327		
	US 2002-387499P	P	20020611		
OS	MARPAT 139:276814				
GI					



AB Aminophenylpyrrolidines I [R1 = halogen, (un)substituted alkyl, onium; n = 0-4; R2 = quaternary ammonium] were prepared for use as hair dyes. Thus, 4-FC6H4NO2 was treated with 3-acetylaminopyrrolidine, followed by deacetylation, conversion to guanidine, and reduction to give the dye II, which gave blue-violet shades in alkaline medium.

IC ICM C07D207-14

ICS C07D521-00; A61K007-13; C07F009-09; C07D417-04; C07D401-04;  
C07D487-08

CC 27-10 (Heterocyclic Compounds (One Hetero Atom))

Section cross-reference(s): 62

ST aminophenylpyrrolidine prepns hair dye

IT Hair preparations

(dyes; preparation of aminophenylpyrrolidines as dyes for keratinic fibers)

IT 607354-86-9P 607354-88-1P 607354-93-8P

607354-98-3P 607355-02-2P 607355-05-5P

607355-09-9P 607355-10-2P 607355-11-3P

607355-12-4P 607355-13-5P 607355-14-6P

607355-15-7P 607355-16-8P 607355-17-9P

607355-18-0P 607355-19-1P 607355-20-4P

607355-21-5P

607355-22-6P 607355-23-7P 607355-24-8P

607355-25-9P

RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of aminophenylpyrrolidines as dyes for **keratinic fibers**)

IT 110-86-1, Pyridine, reactions 123-75-1, Pyrrolidine, reactions 280-57-9, 1,4-Diazabicyclo[2.2.2]octane 288-47-1, Thiazole 350-46-9, 1-Fluoro-4-nitrobenzene 446-33-3, 5-Fluoro-2-nitrotoluene 616-47-7, 1-Methylimidazole 40499-83-0, 3-Pyrrolidinol 79286-74-1,  
3-Acetylaminopyrrolidine

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of aminophenylpyrrolidines as dyes for keratinic fibers)

IT 218944-30-0P 361346-42-1P 361346-55-6P 361346-63-6P 607354-82-5P  
607354-84-7P 607354-85-8P 607354-87-0P 607354-89-2P 607354-91-6P  
607354-92-7P 607354-94-9P 607354-96-1P 607354-97-2P 607355-00-0P  
607355-03-3P 607355-07-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of aminophenylpyrrolidines as dyes for keratinic fibers)

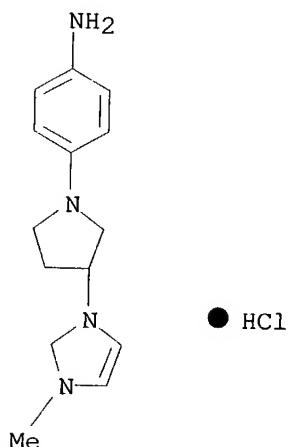
IT 607354-86-9P 607354-88-1P 607354-98-3P  
607355-02-2P 607355-05-5P 607355-10-2P  
607355-11-3P 607355-12-4P 607355-13-5P  
607355-14-6P 607355-15-7P 607355-16-8P  
607355-17-9P 607355-18-0P 607355-19-1P  
607355-22-6P 607355-23-7P 607355-24-8P  
607355-25-9P

RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of aminophenylpyrrolidines as dyes for **keratinic fibers**)

RN 607354-86-9 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-methyl-, chloride, monohydrochloride (9CI) (CA INDEX NAME)

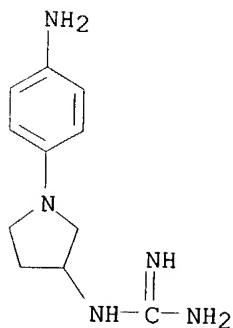


● Cl-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 607354-88-1 HCPLUS

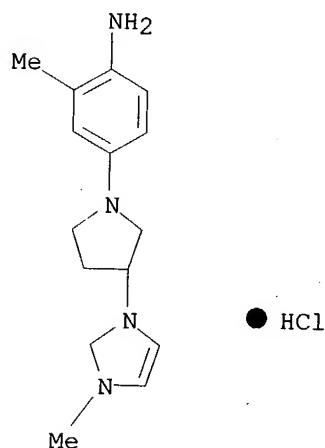
CN Guanidine, [1-(4-aminophenyl)-3-pyrrolidinyl]-, trihydrochloride (9CI)  
(CA INDEX NAME)



● 3 HCl

RN 607354-98-3 HCPLUS

CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-methyl-, chloride, monohydrochloride (9CI) (CA INDEX NAME)



● Cl-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

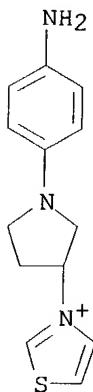
RN 607355-02-2 HCPLUS

CN Thiazolium, 3-[1-(4-aminophenyl)-3-pyrrolidinyl]-, acetate (9CI) (CA INDEX NAME)

CM 1

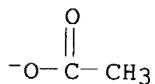
CRN 607355-01-1

CMF C13 H16 N3 S



CM 2

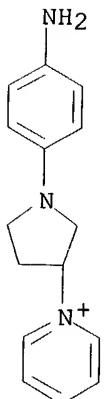
CRN 71-50-1  
CMF C2 H3 O2



RN 607355-05-5 HCAPLUS  
CN Pyridinium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-, acetate (9CI) (CA INDEX NAME)

CM 1

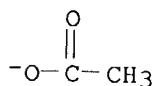
CRN 607355-04-4  
CMF C15 H18 N3



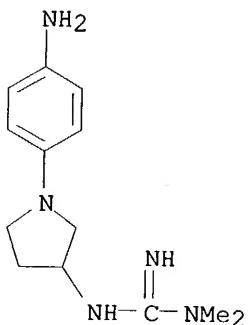
CM 2

CRN 71-50-1

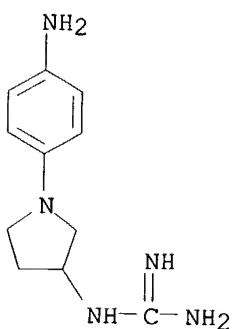
CMF C2 H3 O2



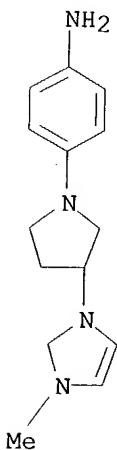
RN 607355-10-2 HCAPLUS  
CN Guanidine, N'-[1-(4-aminophenyl)-3-pyrrolidinyl]-N,N-dimethyl- (9CI) (CA INDEX NAME)



RN 607355-11-3 HCAPLUS  
CN Guanidine, [1-(4-aminophenyl)-3-pyrrolidinyl]- (9CI) (CA INDEX NAME)



RN 607355-12-4 HCAPLUS  
CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)

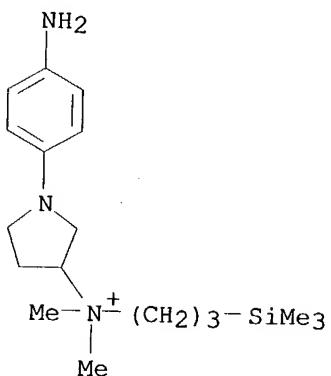


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 607355-13-5 HCPLUS

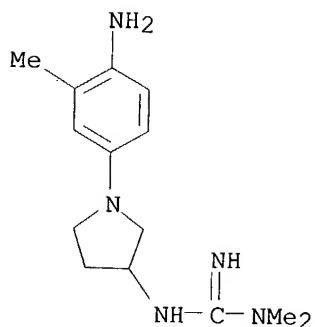
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



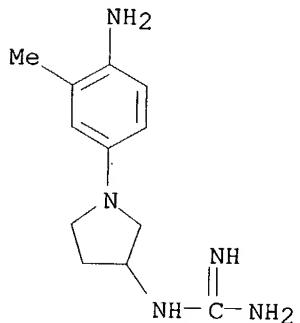
● Cl<sup>-</sup>

RN 607355-14-6 HCPLUS

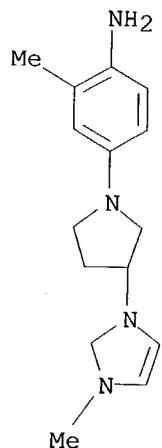
CN Guanidine, N'-(1-(4-amino-3-methylphenyl)-3-pyrrolidinyl)-N,N-dimethyl- (9CI) (CA INDEX NAME)



RN 607355-15-7 HCAPLUS  
CN Guanidine, [1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]- (9CI) (CA INDEX NAME)



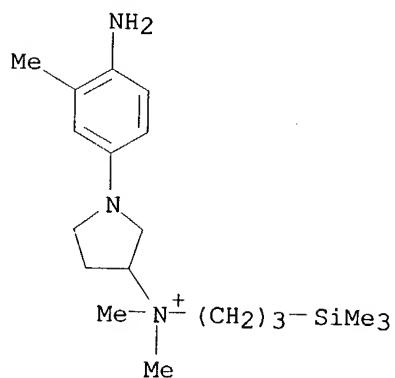
RN 607355-16-8 HCAPLUS  
CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 607355-17-9 HCPLUS

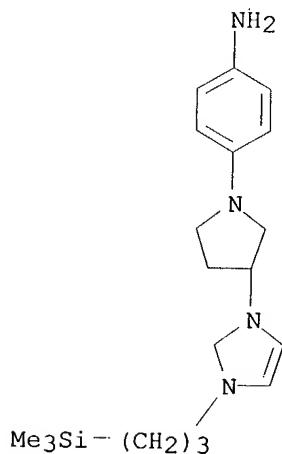
CN 3-Pyrrolidinaminium, 1-(4-amino-3-methylphenyl)-N,N-dimethyl-N-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

RN 607355-18-0 HCPLUS

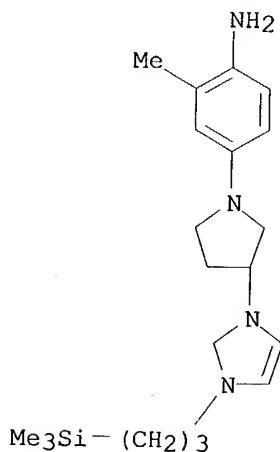
CN 1H-Imidazolium, 1-[1-(4-aminophenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 607355-19-1 HCPLUS

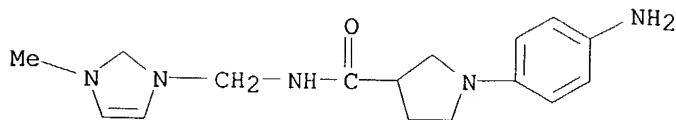
CN 1H-Imidazolium, 1-[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]-3-[3-(trimethylsilyl)propyl]-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE  
RN 607355-22-6 HCPLUS

CN 1H-Imidazolium, 1-[[[1-(4-aminophenyl)-3-pyrrolidinyl]carbonyl]amino]methyl-, chloride (9CI) (CA INDEX NAME)

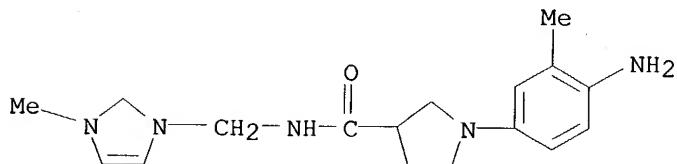


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 607355-23-7 HCPLUS

CN 1H-Imidazolium, 1-[[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]carbonyl]amino]methyl-3-methyl-, chloride (9CI) (CA INDEX NAME)

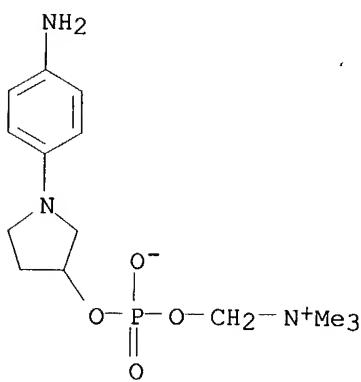


● Cl<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

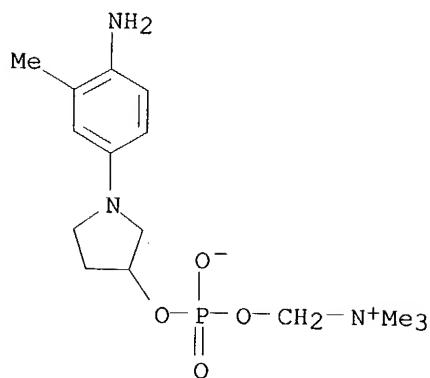
RN 607355-24-8 HCPLUS

CN Methanaminium, 1-[[[1-(4-aminophenyl)-3-pyrrolidinyl]oxy]hydroxyphosphinyloxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)



RN 607355-25-9 HCPLUS

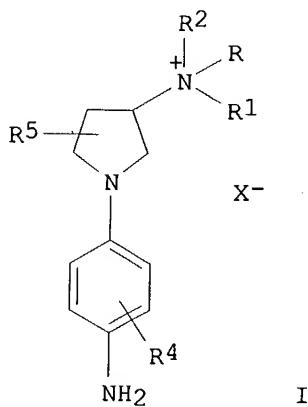
CN Methanaminium, 1-[[[1-(4-amino-3-methylphenyl)-3-pyrrolidinyl]oxy]hydroxyphosphinyloxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L31 ANSWER 18 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2002:768546 HCAPLUS  
 DN 137:283939  
 TI Quaternized pyrrolidines as primary intermediates for oxidative coloration of hair  
 IN Lim, Mu-Ill; Pan, Yuh-Guo  
 PA Clairol Incorporated, USA  
 SO U.S., 72 pp., Cont.-in-part of U.S. Ser. No. 874,080, abandoned.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6461391	B1	20021008	US 2001-11804	20011205
	US 2002106341	A1	20020808	US 2000-730707	20001206
	US 6521761	B2	20030218		
PRAI	US 2000-730707	A2	20001206		
	US 2001-874080	B2	20010606		
OS	MARPAT 137:283939				
GI					



AB Primary intermediates useful in hair coloring systems comprise quaternized pyrrolidine compds. (I; R, R<sub>3</sub> = C<sub>1</sub>-22 alkyl or hydroxyalkyl; R<sub>1</sub>, R<sub>2</sub> = C<sub>1</sub>-4 alkyl; R<sub>4</sub> = H, C<sub>1</sub>-5 alkyl or alkyl substituted with hydroxy or amino moieties; R<sub>5</sub> = H, OH; X = Cl, Br, I, R<sub>3</sub>SO<sub>4</sub>). For example, [1-(4-nitrophenyl)pyrrolidin-3-yl]dimethylamine (470 mg) reacted with Me iodide (567 mg) to give 1-(4-nitrophenyl)-N,N,N-trimethylpyrrolidin-3-aminium iodide (894 mg, 92% yield), which was then hydrogenated to produce 1-(4-aminophenyl)-N,N,N-trimethylpyrrolidin-3-aminium iodide (505 mg, 95% yield). A hair coloring composition contained the primary intermediate and the coupler (0.025 M each) in a base consisting of cocamidopropylbetaine 17 g, monoethanol amine 2 g, oleic acid 0.75 g, citric acid 0.1 g, ammonium hydroxide (28%) 5 g, behentrimonium chloride 0.5 g and water to 100 g.

IC ICM A61K007-13

NCL 008405000

CC 62-3 (Essential Oils and Cosmetics)  
Section cross-reference(s): 27

ST pyrrolidine quaternary ammonium prepn primary intermediate oxidative hair coloring

IT Hair preparations  
(dyes, oxidative; oxidative hair coloring systems containing quaternized pyrrolidine compds. as primary intermediates)

IT Oxidizing agents  
(oxidative hair coloring systems containing quaternized pyrrolidine compds. as primary intermediates)

IT Quaternary ammonium compounds, biological studies  
RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(pyrrolidine-containing; oxidative hair coloring systems containing quaternized pyrrolidine compds. as primary intermediates)

IT 90-15-3, 1-Naphthalenol 95-55-6, 2-Aminophenol 95-70-5,  
2-Methylbenzene-1,4-diamine 95-88-5, 4-Chlorobenzene-1,3-diol  
106-50-3, Benzene-1,4-diamine, biological studies 108-46-3,  
Benzene-1,3-diol, biological studies 123-30-8, 4-Aminophenol 150-75-4,  
4-Methylaminophenol 591-27-5, 3-Aminophenol 608-25-3,  
2-Methylbenzene-1,3-diol 1004-74-6, Pyrimidinetetramine 2380-86-1,  
1H-Indol-6-ol 2835-95-2, 5-Amino-2-methylphenol 2835-98-5,  
2-Amino-5-methylphenol 2835-99-6, 4-Amino-3-methylphenol 7469-77-4,  
2-Methyl-1-naphthalenol 7575-35-1 7722-84-1, Hydrogen peroxide,  
biological studies 16867-03-1, 2-Aminopyridin-3-ol 17672-22-9,  
2-Amino-6-methylphenol 26021-57-8, 3,4-Dihydro-2H-1,4-benzoxazin-6-ol  
41927-22-4, 4-Methyl-2-phenyl-2,4-dihydro-3H-pyrazol-3-one 53222-92-7,  
3-Amino-2-methylphenol 55302-96-0, 5-(2-Hydroxyethylamino)-2-  
methylphenol 70643-19-5, 2-(2,4-Diaminophenoxy)ethanol 83763-47-7  
93841-24-8, 2-(2,5-Diaminophenyl)ethanol 94082-77-6 129697-50-3  
155601-17-5 220264-60-8 307493-94-3, 3-(2,4-Diaminophenoxy)propan-1-ol  
329320-36-7, 1-(2,5-Diaminophenyl)ethanol  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(oxidative hair coloring systems containing quaternized pyrrolidine compds. as primary intermediates)

IT **466651-65-0P**  
RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(oxidative hair coloring systems containing quaternized pyrrolidine compds. as primary intermediates)

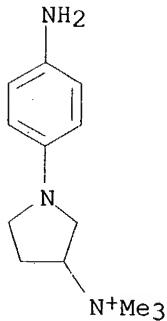
IT 361346-46-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of quaternized pyrrolidine compds. as primary intermediates for

oxidative hair)  
IT 435275-76-6P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation of quaternized pyrrolidine compds. as primary intermediates for oxidative hair)  
IT 435275-60-8P 435275-61-9P 435275-62-0P  
435275-64-2P 435275-65-3P 435275-66-4P  
435275-67-5P 435275-68-6P 435275-69-7P  
435275-70-0P 435275-71-1P 435275-72-2P  
435275-73-3P 435275-74-4P 435275-75-5P  
435275-82-4P 466651-63-8P 466651-64-9P  
RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(preparation of quaternized pyrrolidine compds. as primary intermediates for oxidative hair coloration)  
IT 466651-65-0P  
RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(oxidative hair coloring systems containing quaternized pyrrolidine compds. as primary intermediates)  
RN 466651-65-0 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N,N-trimethyl-, methyl sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 435275-83-5

CMF C13 H22 N3



CM 2

CRN 21228-90-0

CMF C H3 O4 S

Me-O-SO3-

IT 435275-60-8P 435275-61-9P 435275-62-0P  
435275-64-2P 435275-65-3P 435275-66-4P  
435275-67-5P 435275-68-6P 435275-69-7P  
435275-70-0P 435275-71-1P 435275-72-2P

435275-73-3P 435275-74-4P 435275-75-5P

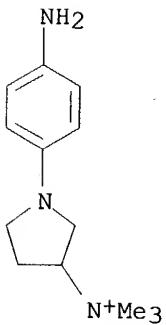
435275-82-4P 466651-63-8P 466651-64-9P

RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of quaternized pyrrolidine compds. as primary intermediates for oxidative hair coloration)

RN 435275-60-8 HCPLUS

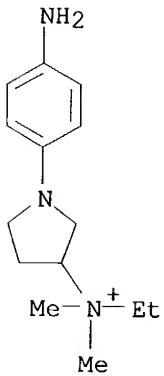
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N,N-trimethyl-, iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-61-9 HCPLUS

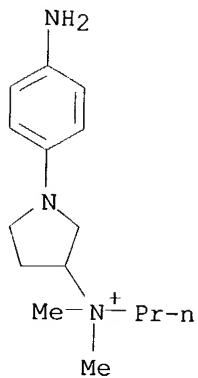
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-62-0 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, iodide  
(9CI) (CA INDEX NAME)



● I -

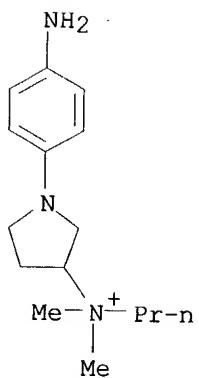
RN 435275-64-2 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, propyl sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 435275-63-1

CMF C15 H26 N3



CM 2

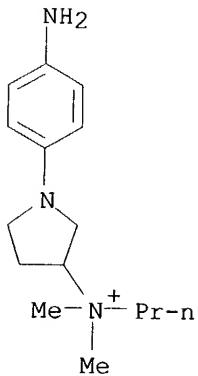
CRN 72640-73-4

CMF C3 H7 O4 S

n-Pr-O-SO<sub>3</sub><sup>-</sup>

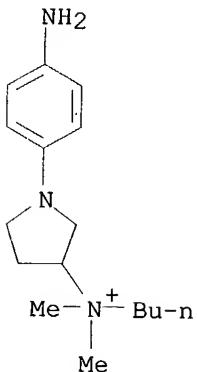
RN 435275-65-3 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, bromide (9CI) (CA INDEX NAME)



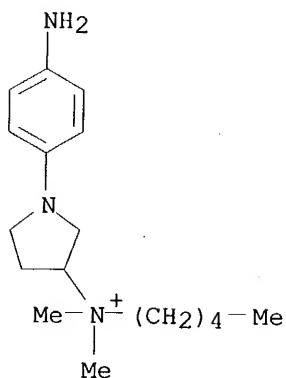
● Br<sup>-</sup>

RN 435275-66-4 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-butyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

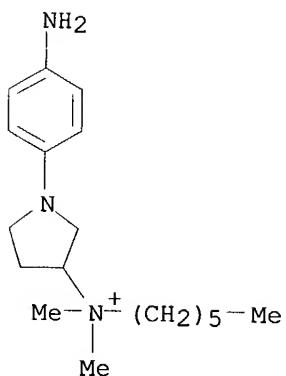
RN 435275-67-5 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-pentyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-68-6 HCPLUS

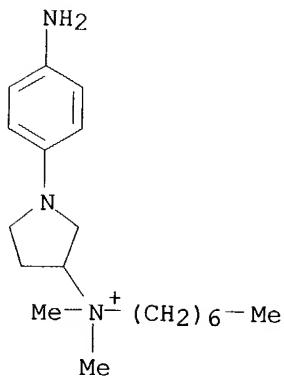
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-69-7 HCPLUS

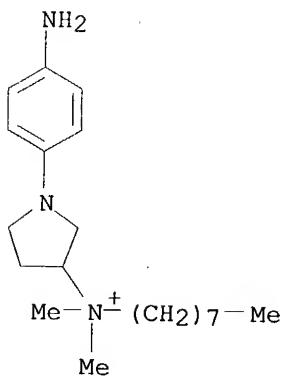
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-heptyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-70-0 HCPLUS

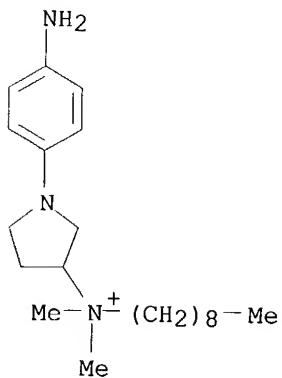
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-octyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-71-1 HCPLUS

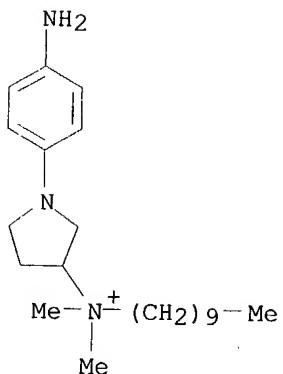
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-nonyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-72-2 HCPLUS

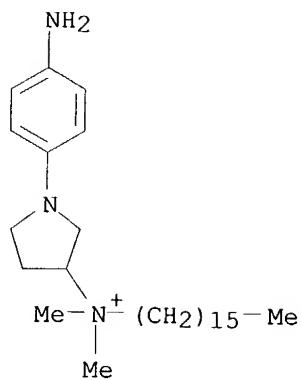
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-decyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

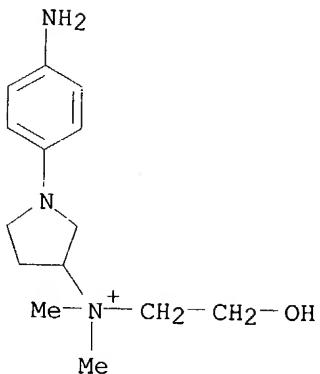
RN 435275-73-3 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexadecyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



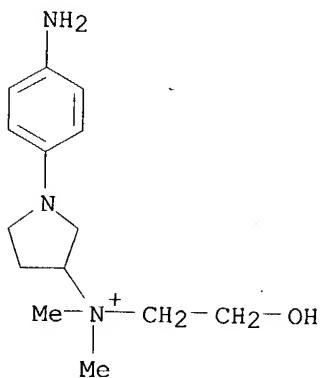
● I-

RN 435275-74-4 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-,  
iodide (9CI) (CA INDEX NAME)



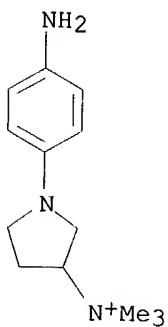
● I-

RN 435275-75-5 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-,  
bromide (9CI) (CA INDEX NAME)



● Br<sup>-</sup>

RN 435275-82-4 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N,N-trimethyl-, chloride (9CI)  
(CA INDEX NAME)

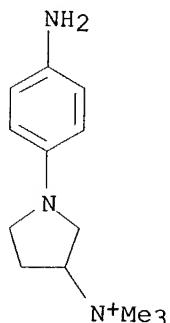


● Cl<sup>-</sup>

RN 466651-63-8 HCAPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N,N-trimethyl-, sulfate (1:1)  
(9CI) (CA INDEX NAME)

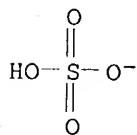
CM 1

CRN 435275-83-5  
CMF C13 H22 N3



CM 2

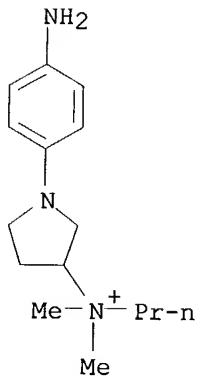
CRN 14996-02-2  
CMF H O4 S



RN 466651-64-9 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, sulfate  
(1:1) (9CI) (CA INDEX NAME)

CM 1

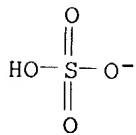
CRN 435275-63-1  
CMF C15 H26 N3



CM 2

CRN 14996-02-2

CMF H O4 S



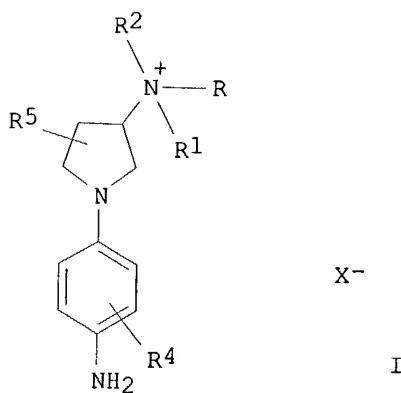
RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L31 ANSWER 19 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2002:449467 HCAPLUS  
 DN 137:37379  
 TI Primary intermediates for oxidative coloration of hair  
 IN Lim, Mu-Ill; Pan, Yluh-Guo  
 PA Clairol Incorporated, USA  
 SO PCT Int. Appl., 77 pp.  
 CODEN: PIXXD2

DT Patent  
 LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002045675	A1	20020613	WO 2001-US47532	20011205
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2002106341	A1	20020808	US 2000-730707	20001206
	US 6521761	B2	20030218		
	AU 2002027330	A5	20020618	AU 2002-27330	20011205
	EP 1414392	A1	20040506	EP 2001-996192	20011205
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
PRAI	JP 2004514729	T2	20040520	JP 2002-547461	20011205
	US 2000-730707	A	20001206		
	US 2001-874080	A	20010606		
	WO 2001-US47532	W	20011205		
OS	MARPAT 137:37379				
GI					



AB Primary intermediates useful hair coloring systems comprise quaternized pyrrolidine compds. The invention provides new quaternized pyrrolidine of formula (I): wherein X is Cl, Br, I, or R<sub>3</sub>SO<sub>4</sub>; R is a C1 to C22 alkyl group or a C1 to C22 mono or dihydroxyalkyl group; R<sub>1</sub> and R<sub>2</sub> are each independently a C1 to C4 alkyl group; R<sub>3</sub> is a C1 to C22 alkyl group or a C1 to C22 mono or dihydroxyalkyl group; R<sub>4</sub> is a hydrogen atom, a C1 to C5 alkyl group or such an alkyl group substituted with one or more hydroxy or amino moieties; and R<sub>5</sub> is a hydrogen atom or a hydroxy group. Thus, 1-(4-aminophenyl)-N,N,N-trimethylpyrrolidin-3-aminium iodide (II) was prepared by the reaction of [1-(4-nitrophenyl)-pyrrolidin-3-yl]dimethylamine with Me iodide and hydrogenation of the resulting 1-(4-nitrophenyl)-N,N,N-trimethylpyrrolidin-3-aminium iodide. The color produced by combination of II with various couplers such as resorcinol, m-aminophenol, 5-aminophenol, and 2,4-diaminophenoxyethanol is reported.

IC ICM A61K007-13

ICS C07C211-00; C07C217-84

CC 62-3 (Essential Oils and Cosmetics)  
Section cross-reference(s): 27

ST primary intermediate oxidative coloration hair

IT Hair preparations

(dyes, oxidative; primary intermediates for oxidative coloration of hair)

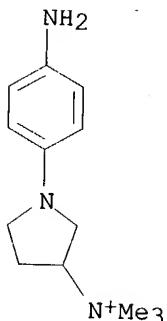
IT Oxidizing agents

(primary intermediates for oxidative coloration of hair)

IT 90-15-3, 1-Naphthalenol 95-55-6, 2-Aminophenol 95-70-5,  
2-Methylbenzene-1,4-diamine 95-88-5, 4-ChloroBenzene-1,3-diol  
106-50-3, Benzene-1,4-diamine, biological studies 108-46-3,  
Benzene-1,3-diol, biological studies 123-30-8, 4-Aminophenol  
123-75-1D, Pyrrolidine, quaternized derivs. 150-75-4,  
4-Methyl-aminophenol 591-27-5, 3-Aminophenol 608-25-3 1004-74-6,  
Pyrimidinetetramine 2380-86-1, 1H-Indol-6-ol 2835-95-2,  
5-Amino-2-methylphenol 2835-98-5, 2-Amino-5-methylphenol 2835-99-6  
7469-77-4 16867-03-1, 2-Aminopyridin-3-ol 17672-22-9 26021-57-8,  
3,4-Dihydro-2H-1,4-Benzoxazin-6-ol 41927-22-4, 4-Methyl-2-phenyl-2,4-  
dihydro-3H-pyrazol-3-one 53222-92-7, 3-Amino-2-methylphenol  
55302-96-0, 5-(2-Hydroxyethylamino)-2-methylphenol 83763-47-7  
93841-24-8 94082-77-6 126335-43-1 129697-50-3 155601-17-5  
220264-60-8 307493-94-3 329320-36-7 402940-99-2 **435275-82-4**  
**435275-84-6**

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(primary intermediates for oxidative coloration of hair)

IT 435275-60-8P 435275-61-9P 435275-62-0P  
435275-64-2P 435275-65-3P 435275-66-4P  
435275-67-5P 435275-68-6P 435275-69-7P  
435275-70-0P 435275-71-1P 435275-72-2P  
435275-73-3P 435275-74-4P 435275-75-5P  
RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(primary intermediates for oxidative coloration of hair)  
IT 74-87-3, Methyl chloride, reactions 74-88-4, Methyl iodide, reactions  
77-78-1, Methyl sulfate 361346-46-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(primary intermediates for oxidative coloration of hair)  
IT 435275-76-6P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(primary intermediates for oxidative coloration of hair)  
IT 435275-82-4 435275-84-6  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(primary intermediates for oxidative coloration of hair)  
RN 435275-82-4 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N,N-trimethyl-, chloride (9CI)  
(CA INDEX NAME)

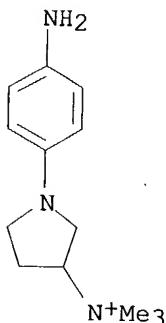


● Cl<sup>-</sup>

RN 435275-84-6 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N,N-trimethyl-, sulfite (1:1)  
(9CI) (CA INDEX NAME)

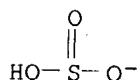
CM 1

CRN 435275-83-5  
CMF C13 H22 N3

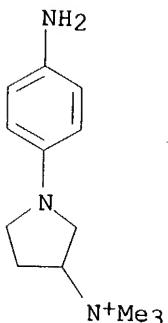


CM 2

CRN 15181-46-1  
CMF H O3 S



IT 435275-60-8P 435275-61-9P 435275-62-0P  
435275-64-2P 435275-65-3P 435275-66-4P  
435275-67-5P 435275-68-6P 435275-69-7P  
435275-70-0P 435275-71-1P 435275-72-2P  
435275-73-3P 435275-74-4P 435275-75-5P  
RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(primary intermediates for oxidative coloration of hair)  
RN 435275-60-8 HCPLUS  
CN 3-Pyrrolidinamininium, 1-(4-aminophenyl)-N,N,N-trimethyl-, iodide (9CI) (CA INDEX NAME)

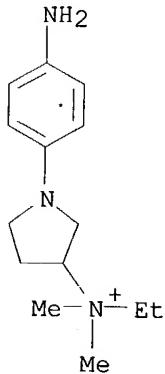


● I-

RN 435275-61-9 HCPLUS

ELHILO 10/735291 11/08/04 Page 372

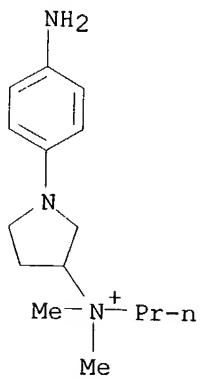
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-ethyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



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RN 435275-62-0 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, iodide  
(9CI) (CA INDEX NAME)



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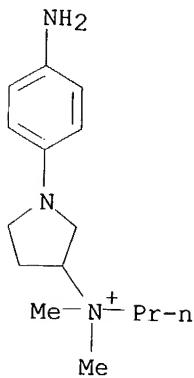
RN 435275-64-2 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, propyl  
sulfate (9CI) (CA INDEX NAME)

CM . 1

CRN 435275-63-1

CMF C15 H26 N3

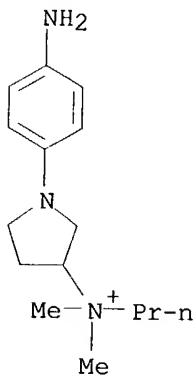


CM 2

CRN 72640-73-4  
CMF C3 H7 O4 S

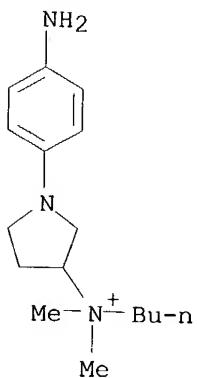
n-Pr-O-SO3-

RN 435275-65-3 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-propyl-, bromide  
(9CI) (CA INDEX NAME)



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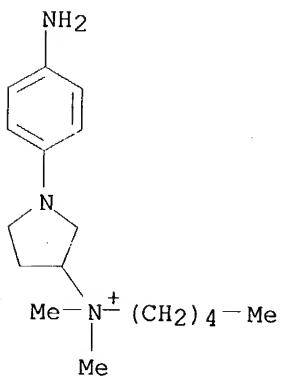
RN 435275-66-4 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-butyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



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RN 435275-67-5 HCPLUS

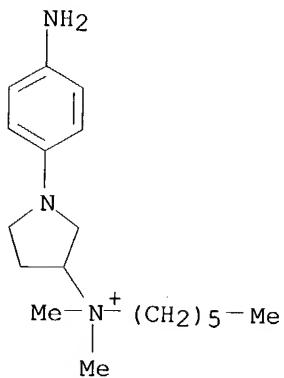
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-pentyl-, iodide  
(9CI) (CA INDEX NAME)



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RN 435275-68-6 HCPLUS

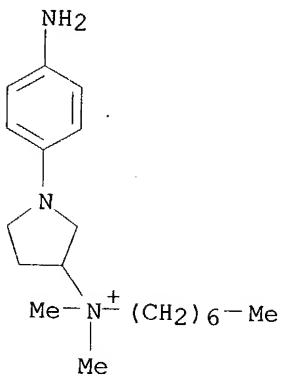
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

RN 435275-69-7 HCPLUS

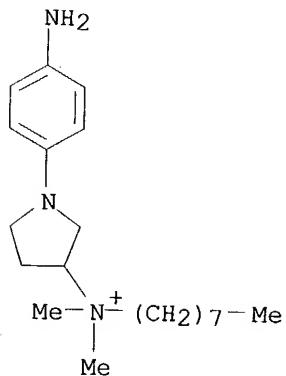
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-heptyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



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RN 435275-70-0 HCPLUS

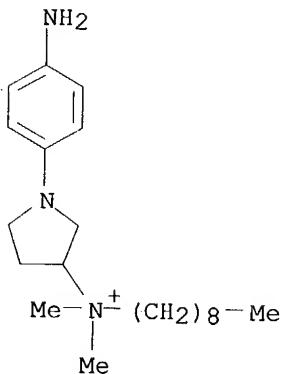
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-octyl-, iodide (9CI)  
(CA INDEX NAME)



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RN 435275-71-1 HCPLUS

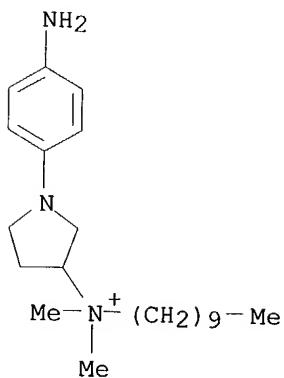
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N,N-dimethyl-N-nonyl-, iodide (9CI)  
(CA INDEX NAME)



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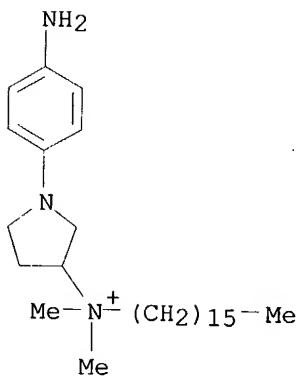
RN 435275-72-2 HCPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-decyl-N,N-dimethyl-, iodide (9CI)  
(CA INDEX NAME)



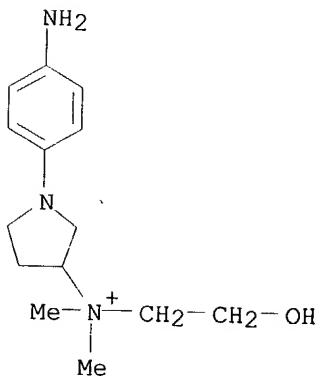
● I<sup>-</sup>

RN 435275-73-3 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-hexadecyl-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



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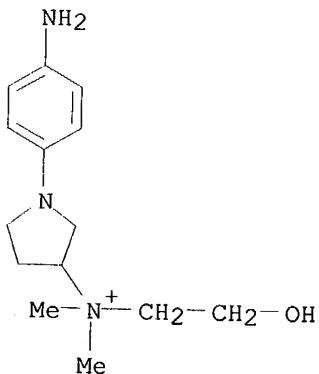
RN 435275-74-4 HCPLUS  
CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-, iodide  
(9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 435275-75-5 HCAPLUS

CN 3-Pyrrolidinaminium, 1-(4-aminophenyl)-N-(2-hydroxyethyl)-N,N-dimethyl-,  
bromide (9CI) (CA INDEX NAME)



● Br<sup>-</sup>

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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